

# Real Estate Problems

## The Annals

VOLUME CXLVIII: PART I

MARCH, 1930

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With a Monograph on  
COMMERCIAL ARBITRATION

PART II

A SUPPLEMENT ON  
COLORADO RIVER DEVELOPMENT

THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

3622-24 LOCUST STREET

PHILADELPHIA

1930

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#### EUROPEAN AGENTS

ENGLAND: P. S. King & Son, Ltd., 2 Great Smith Street, Westminster, London, S. W.  
FRANCE: L. Larose, rue Soufflot, 22, Paris.  
GERMANY: Mayer & Müller, 2 Prinz Louis Ferdinandstrasse, Berlin, N. W.  
ITALY: Giornale degli Economisti, Milano, Via Canova, 27.  
SPAIN: E. Dossat, 9 Plaza de Santa Ana, Madrid.



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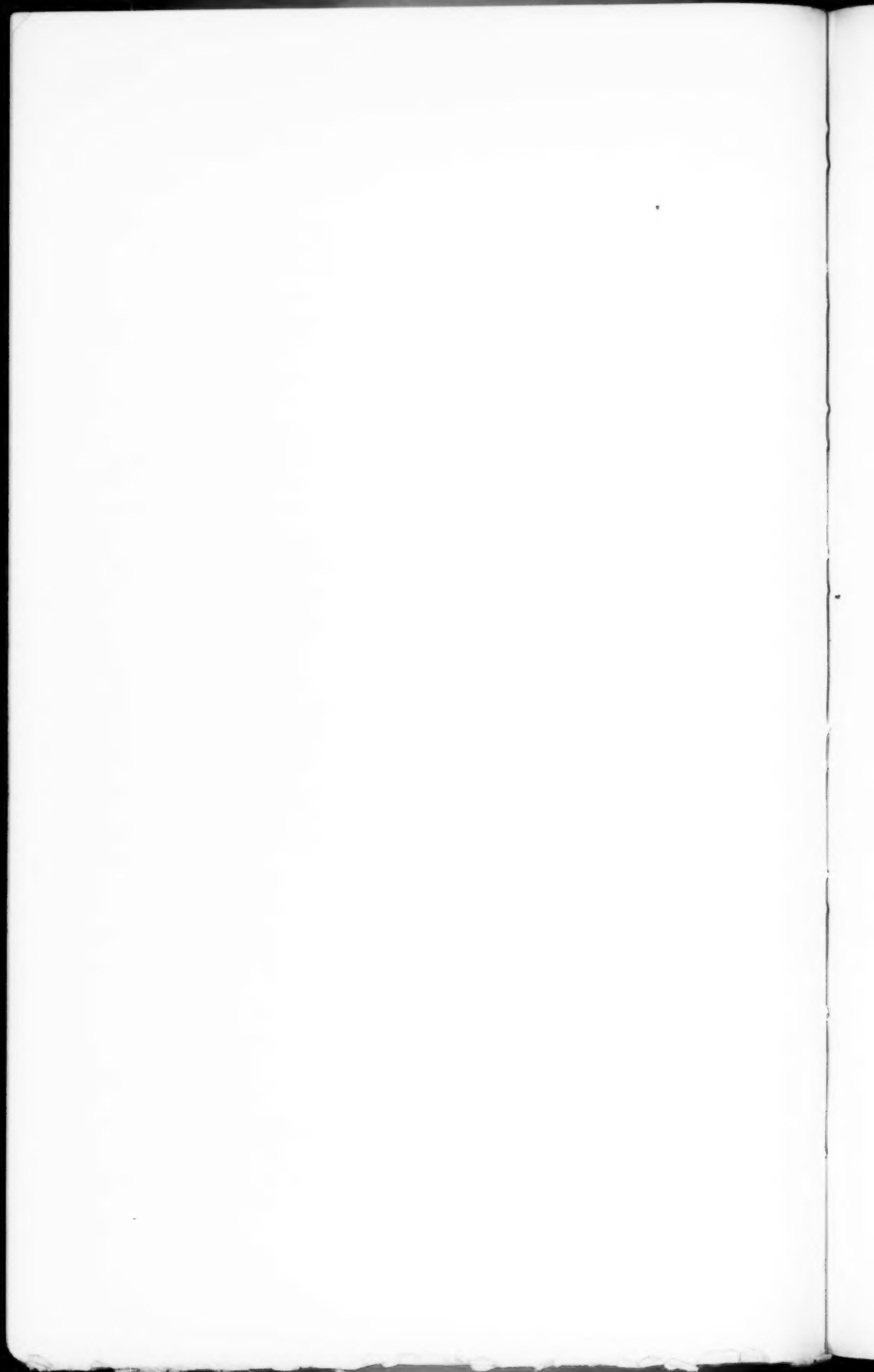
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## AN APPRECIATION

It is with the greatest regret that the Board of Directors must announce that the Honorable Leo Stanton Rowe has firmly declined reelection to the presidency of the American Academy. His decision has meant a great loss to the Academy—a loss which is but slightly lessened by the fact that he continues as a director.

For twenty-seven years he was President, and during that period he brought the Academy to its present position of national and even of international importance. Throughout his successful and distinguished administration he maintained the Academy's prestige as an open forum for the fair-minded discussion of public questions, giving without honorarium his unsparing efforts to the upbuilding of higher ideals and standards in both national and international relations.

In recognition of this contribution to our progress, the Board of Directors and the Members of the Academy, meeting on January 20, 1930, voted to tender this public expression of their regret at his withdrawal from the presidency and their grateful appreciation of his long and efficient service.

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## FOREWORD

LAND problems, as the most fundamental of all real estate problems, may be said to have had their origin with the eviction of Adam and Eve from Paradise. From that fateful day, whenever it was, in the history of mankind down to the present, man has had to put forth effort to wrest from niggardly Mother Earth the wherewithal to satisfy the material wants of his ever increasing numbers. There has been no great movement in history, from the conquest of ancient Egypt by the nomadic shepherd kings, through the migrations of the Dark Ages, down to the World War, which has not been identified with man's struggle for the possession of land and the services of land.

The invidious distinction attached to the control over land has grown in importance with the multiplication of its uses. These uses have increased in number most rapidly during the past century and a half, since the advent of the Industrial Revolution. Not only does land continue to be the source of man's food supply; its many other productive powers which have been discovered are the very foundations upon which our complex civilization is established.

It is the purpose of the present volume to indicate some of the many complex economic and social problems incidental to man's uses and abuses of some of the productive properties of land. Since these problems deal not only with rural land usage, but also with urban land utilization, they have been designated "Real Estate Problems," to indicate that they involve not merely land, but also that which has been more or less permanently combined with land, the so-called improvements on land. Space does not permit an exhaustive treatment of the many land problems arising from the possible exhaustion of our natural resources. In general, the articles are limited to a discussion of some of the outstanding issues connected with the present day utilization of urban and rural real estate in the United States.

Without the wholehearted coöperation of the contributors, the present volume would have been impossible. Whatever merit it may possess as a contribution to a better understanding of many present day real estate problems is entirely due to their efforts.

KARL SCHOLZ.

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# Real Estate and Real Estate Problems

By W. CARLTON HARRIS

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AS used by economists, the term "real estate" is at the same time more comprehensive and in some respects less inclusive than the term "land." Land has been defined to include not only the solid, physical surface of the earth, but all such factors as mineral deposits, fertility of soil, natural produce, wild animal life, bodies of water, climate, and so forth, which are attributes of land. It is questionable whether or not the term "real estate," in common parlance, is extended to embrace wild animal life and climate, although these may affect the value of land. On the other hand, real estate includes all improvements of a permanent nature erected or constructed upon land, such as buildings and wharves, which are called by some economists "capital," and by others, "consumers' capital," or "instrumental capital," depending upon their nature and use.

## REAL ESTATE AND REAL PROPERTY

Legally, real estate, or realty, is limited to the physical land—buildings and improvements thereon, minerals therein, and natural produce growing on the land—which is not the result of annual cultivation; while real property has to do with rights of title or control over realty, generally those rights only which have a duration of a life or a lifetime. To this there are certain exceptions. For example, a ground rent having a duration less than that of a life is, nevertheless, real property. These rights include not only title to the physical land, but certain intangibles, as easements and riparian rights.

The terms "realty," "real estate," and "real property" are frequently used interchangeably in common speech and in non-legal publications.

Land lying under water is real estate, and title to such land gives to its possessor certain privileges in respect to the water, but whether or not the water itself may be properly called real estate is open to debate. Certainly, it cannot be owned in the same sense that other commodities may be owned. Title to water is dependent upon taking the water into physical possession. If it escapes, title to it is gone. For example, if a lake lies within the boundaries of a person's land, the owner has title to the underlying land and has the right to use the water of the lake for any purpose, but if the water overflows to another person's land all title to it and rights over it are lost.

Land is of fundamental importance as the basis of man's economic and social life. Not only does mankind live upon it, but it is the source of all material wealth. So self-evident is this fact that its elaboration is unnecessary. Real estate, that is, land and improvements thereon, constitutes more than one-half of the wealth of the United States, according to the 1920 report of the Bureau of the Census. At that time realty of all classes constituted fifty-five per cent of the total wealth of the United States. Furthermore, forty and nine-tenths per cent of the dwellings, and sixty-two per cent of the farms, were occupied by owners. Not only is the ownership of real estate widely distributed in this country, but

realty furnishes extensive security for investments in the form of mortgages and bonds, which are widely held by the general public. Taxes on real estate constitute the main source of income for most municipalities, townships, boroughs, and counties, and some part of the income of most states. These considerations clearly indicate the primary value and need for study and research into real estate problems and their solution. The proper utilization of land is essential for economic and social well-being.

Land differs in kind, quality, and location, and such differences result in varying uses, which may be made the basis of economic classification. There is no standardized classification of land, but there are four fairly obvious major divisions, namely, agricultural land, mineral land, forest land, and urban land. Some writers add water resources as a fifth division. These may in turn be almost indefinitely subdivided, depending upon the purposes of the classification. For example, agricultural land may be subclassified, depending upon the particular agricultural use it is best fitted to serve, as land suitable for cotton, grain, truck farming, pasturage, fruit growing, and so forth. Mineral land may be subclassified in accordance with the specific mineral contained; forest land, according to the character of the wood; urban land, according to its suitability for certain types of utilization, as residential, commercial, industrial, institutional, and so on. This classification, based on use, may be supplemented by a classification into public and private land which is based on ownership. This suggests some additional uses for publicly owned urban land, as for transportation, recreation, education, and political administration.

Any classification of real estate

which may be adopted suggests certain problems related to each class. For the purpose of this introductory article, however, only a few of the major problems will be mentioned, together with the lines of study or effort along which their solutions may be sought. Real estate is so all-pervasive in its nature that problems may be proposed which relate to real estate, but are distinctly problems lying in other fields. For example, real estate includes mineral lands, but problems connected with the technology of mining would hardly be considered as real estate problems.

#### LEGAL PROBLEMS

The purpose of this volume is to discuss the economic aspects of real estate; therefore, the numerous legal problems of interest and concern to lawyers cannot be treated in detail. The major legal problem related to economic and social welfare, in this régime of private ownership of property, has to do with the security of titles and the undisturbed possession of land. Security of title is to a considerable extent dependent upon the system of recording titles, which has reached, in general, a fairly high degree of excellency. There are some defects in it, however. Forged or fraudulent instruments purporting to pass title may be recorded, but they are not validated by the act of recording, and, in consequence, the actual title may not correspond to the state of the record.

In the larger cities, the risk of defective titles is minimized by the operations of title insurance companies, but such companies rarely operate in country districts. A number of states have attempted to remedy the defects of our recording systems by instituting the so-called "Torrens System of Land Registration," in which the record title is in all cases sustained and an indem-

nity fund under the operation of the state is established for the benefit of those injured by errors in the record. This system is extensively used in the British colonies, but has made little headway in the United States.

In regard to legal real estate problems, it may be of interest to point out that they originate largely from the conservative lag of the law behind social and economic changes. Real estate law had its origin in the feudal system, and there are still traces of that origin in our legal practices which conflict with our present day theory of allodial ownership. Again, the law crystallized in a period dedicated to the sacredness of individual property rights, so that social measures of control in the nature of public restrictions, community planning, zoning, and so forth, have had to fight their way gradually by means of legislation and sometimes by means of constitutional amendments.

Much of our law is court-made law, as distinguished from legislation, and the courts are bound by precedent. Consequently the law is modified but slowly to meet changing conditions. For example, the theory of ownership, developed before our mastery of the air, gave to the owner of the soil title to an indefinite extent upwards. This resulted in no practical disadvantage, as the space overhead was not used above the level of buildings. The modern use of aircraft will, of necessity, bring modifications of this law. The courts, bound by precedent, are in difficulties, and under a strict interpretation of the old law airplanes are committing innumerable acts of technical trespass. This problem calls for legislative solution, probably along the lines of declaring the airways free above a certain height, with perhaps the additional establishment of definite lanes for travel.

The International Air Convention of 1919 announced the principle of complete and exclusive state sovereignty in the air space superincumbent upon its domains. The Federal Air Commerce Act declares that the air space above certain altitudes to be designated by the Secretary of Commerce shall be open and free to all aerial navigation. The right of ownership to the air space is not touched upon, but a right in the nature of an easement is apparently created in favor of the air navigator. Analogous legislation has been passed by a number of states.

It remains to be decided whether the air space will be considered public property similar to navigable waters, or whether the title of the surface owner to the space above will be maintained. If the courts take the latter view the exercise of the right of eminent domain must be invoked to establish public airways for commerce. Several decisions by lower courts would seem to indicate that the air space above a man's property will not be considered to be owned by him absolutely.

#### FINANCIAL PROBLEMS

The problems of financing real estate are of great social and economic significance, primarily because the cost of real estate is high in relation to expenditures for other commodities. The widespread ownership of homes is socially significant and should be encouraged. A large portion of the cost of such homes must be financed by financial institutions in order to enable the home owners to pay for them over a period of years. Financing the acquisition of homes up to fifty per cent or sixty per cent of their cost can normally be accomplished through the ordinary financial channels of banks, trust companies, and mortgage companies, engaged in lending money on the security of first mortgages. The prob-

lem from the standpoint of the home owner is one of financing the equity above the first mortgage. In some states, this is partially accomplished by the organization and the operation of building and loan associations which lend money on the security of second mortgages which are amortized over a period of years. In many states, however, building and loan associations are limited by law to the extension of loans on first mortgage security. In these states, the second mortgages may be granted by second mortgage companies or may be obtained from private investors, real estate brokers, or the former owners of the properties, who occasionally take back second mortgages representing a portion of the purchase price. The cost of such second mortgage financing, however, is high, and some form of group financing, after the manner of building and loan associations, operated not for profit but for the benefit of the members of the group, is probably the best solution of that problem.

Problems of financing real estate, however, extend beyond the financing of the equities of home owners. Another problem is presented in the financing of large commercial real estate operations, as for example, hotels, office buildings, loft buildings, and apartment houses. With the growth of the skyscraper and with the rapidly mounting cost of land in the central sections of our large cities, the problem of such financing has become acute. Mortgages are required in sums so large that only comparatively few of the large financial institutions can afford to take them. Until recently, there has been no standard method of splitting the mortgage into fractional parts, making them available to the average investor, as has been the practice of corporate financing in other fields. If a railroad

company needs ten million dollars for capital purposes, it is not faced with the problem of finding a financial institution large and strong enough to advance that sum from its own resources. It issues bonds in convenient denominations totaling ten million dollars and disposes of those bonds to the investing public through the channels of investment banking houses.

#### MORTGAGE COMPANIES

Mortgage companies have been organized to perform analogous services for large commercial real estate undertakings. A mortgage aggregating sixty to seventy-five per cent of the total cost will be executed in favor of the mortgage company, and this mortgage will secure the issuance of bonds in convenient denominations totaling the amount of the mortgage. The bonds may then be sold with or without the guaranty of the mortgage company. The great disadvantage of this process has in the past been the non-liquidity of these bonds. They are not generally qualified for listing on the exchanges and their resale by the original purchaser has been a matter of some difficulty, although occasionally the issuing mortgage company has provided some sort of market for the resale. Furthermore, it leaves unsolved the problem of financing the equity above this mortgage. Occasionally, corporations have been formed which issue stock representing this equity, but that stock, in turn, has suffered from lack of liquidity and from the absence of organized markets for its resale.

An effort to meet this problem has recently been made by the organization of the Real Estate Securities Exchange in New York City. While the organization has been accomplished, the Exchange is still in an experimental stage. To meet the problem of equity financing in large real estate undertakings, certain

coöperative plans have been put into effect, such as the coöperative apartment movement and the Fred F. French plan in New York City. The National City Bank, in coöperation with other financial institutions in New York, has recently announced a plan to finance the construction of large real estate undertakings without any mortgage financing. The total cost is to be covered by the issuance of stock which is to be given liquidity by listing on the Real Estate Securities Exchange. The success of this plan has still to be demonstrated.

Problems of real estate financing are by no means limited to urban localities, but the problems of agricultural financing have received wider recognition. Certain private and semi-public financial institutions have come into existence to meet this problem, notably, the Federal Farm Loan system and the Joint Stock Land Banks, organized and operated for the purpose of making available to farmers at a reasonable cost first mortgage money. The whole problem of financing real estate is tied up with the social problem of tenancy versus ownership. If the conclusion is reached, as seems inevitable, that from a social and economic viewpoint home ownership and farm ownership are superior to any existing form of tenancy, then adequate and reasonable means of financing must be placed at the disposal of the home and farm owners.

Although home ownership is to be encouraged, a large measure of tenancy is, nevertheless, inevitable. During the World War, home-building did not keep pace with the growing population, and the housing situation became acute in many localities, leading to excessive increases in rentals. As a result, various forms of public rent control were tried—generally without any large measure of success. Extensive

building operations in the years following the war brought their own economic remedy, and the agitation for rent control has diminished. With the exception of periods of national emergency, there does not seem to be any adequate reason at present for public interference in this field with the free play of the laws of supply and demand.

#### TAXATION PROBLEMS

Of equal social importance are problems relating to real estate taxation. Since real estate is immovable and is not subject to concealment, it is peculiarly suitable for taxation, from an administrative point of view, and the largest part of the revenues of political subdivisions is acquired through real estate taxes. The tax problems of social importance are largely those of the equitable imposition of such taxes in a manner to equalize the tax burden and to make possible the free development of land utilization without discouraging such development by undue tax burdens or overstimulating development by excessive taxes on undeveloped land. Real estate taxes in this country are generally imposed upon real estate values rather than upon income derived from the ownership of real estate, and the question of the proper ascertainment of the value subject to tax immediately presents itself. Particularly pertinent is the problem as to whether or not the value resulting from the potential future income derivable from the site should be taxed at the present time.

The Ricardian doctrine of rent, namely, that rent is a differential surplus largely, or in whole, unearned, has led to the promulgation of certain theories of land tax which usually go under the name of the "single tax." In detail, these plans vary all the way from proposals to tax the future un-



earned income of land, to proposals to absorb the past unearned income, which would practically amount to confiscation and would lead to systems of land nationalization.

#### VALUATION PROBLEMS

Intimately related to problems of financing and taxation, and cutting across the entire field of the real estate business, is the problem of ascertaining the value of real estate; the evidence upon which real estate values should be based; and the proper use of that evidence in order to reach the final result. The value of land results, in large measure, from the utilization to which that land may be put both now and in the near future, and the value in turn reacts upon utilization. The public does not know enough about land values, and its lack of knowledge puts it to some extent at the mercy of unscrupulous real estate operators. This ignorance makes possible the recurrence of unhealthy bursts of land speculation at various times and places, which results in widespread loss, in placing large quantities of land in weak hands, and in a reactionary prejudice against the real estate business. One of the reasons for the lack of knowledge of real estate values is the concealment of real estate selling prices. Many brokers realize this, and tentative efforts have been made by certain real estate boards to induce the brokers to report selling prices, and, in that way, to build up a body of public records which would be of enormous service to the appraisers and the public officials valuing the land. Although some steps along this line have been taken, they have not extended very far.

Many professional appraisers discourage any extension of public knowledge of real estate selling prices, fearing that it would make their services unnecessary, and there are still numerous brokers who believe that their success in the real estate business is to some extent dependent upon public ignorance of real estate values.

#### SOCIAL PROBLEMS

Important social problems intimately related to real estate have resulted from the rapid growth of cities in the past half century. This has led to overcrowded and slum conditions, which are detrimental to general health and welfare; to traffic congestion, which has been accentuated by the rapid development of the automobile; and to the unorganized extension of building operations without any uniform and consistent plan. These problems are being met by independent municipal efforts along lines of regional and city planning, zoning ordinances, and improved building codes.

Although this volume is not designed to treat of the real estate business and its problems as such, nevertheless, much should be made of the very laudable efforts to improve the ethical standards and practices of the business through the organization, by real estate brokers, of real estate boards, city, state, and national in scope; through the movement toward the extension of real estate education in colleges and schools; and through legislative enactments requiring the licensing of brokers, establishing standards for the admission of applicants into that field, and creating some form of state control over their operations.

# Research Development in Real Estate in the United States

By ARTHUR J. MERTZKE

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RESEARCH in real estate may be divided for practical purposes into two main divisions, depending upon the objectives of the individual research projects. One of these divisions is identified very clearly with public or social purposes, because the chief aim of the studies falling into this classification is to discover facts and principles which will enable the community as a whole to realize a harmonious and properly proportioned development of its real property resources, thus bringing about the most efficient and the most durable development and utilization of that portion of the community's wealth represented by real estate. The second of these divisions is characterized by the fact that studies under this classification, in the main, have private purposes and objectives in the discovery of facts and principles which will be useful primarily in the successful development of individual or of private real estate projects.

The two divisions, therefore, have much in common in so far as they are concerned with the discovery of principles for better development and utilization of the real property resources of the community.

## TREND TOWARD SOUNDER POLICIES

One of the most significant results of this comparatively new field of research is the clearly discernible trend in the last few years toward sounder policies in the promotion, the development, and the ultimate utility of an increasing number of real estate

building and development projects, and there are indications that the goal of this tendency will be ultimately to transfer real estate from the class of properties which have generally been considered speculative to the class of conservative investments. This tendency has received great impetus, for example, by the adoption on the part of the National Association of Real Estate Boards of standards of appraisal practice under which speculative valuations are practically prohibited because the rules governing appraisal procedure admit as evidence of value only definitely ascertainable data.

The most practical benefits of real estate research will not be realized on a large scale until the principles underlying the proper use and the sound development of real estate are grasped by the real estate buying and selling public, as well as by real estate operators, brokers, builders, financiers, and architects. Under the lash of a frozen market, for the past few years all of these groups, including the general public, have learned one very profound lesson, namely, that real estate cannot permanently be treated as a speculative commodity. Real estate values have no validity apart from the actual uses to which individual properties are, or may be, put. Consequently, we have learned that an ordinary residential lot in an undeveloped community cannot be worth five thousand to ten thousand dollars, and that no one is justified in paying more for a business property than the reasonable

net earnings of the property will warrant.

The realization that something was wrong with the blind operations which have characterized real estate development projects in the past has led to a growing and widespread hunger for knowledge of the causes of the success or failure of real estate undertakings, and a growing willingness to conform to sound principles through which the enormous losses of the past may be minimized.

The division of real estate research under the general headings of public and private purposes, suggested above, does not serve as a clean-cut division for the agencies and the institutions conducting research in this field. Colleges and universities, which naturally interest themselves primarily in the social aspects of research problems, are engaged in a good many research projects which will be of primary interest to real estate developers. On the other hand, a national trade association like the National Association of Real Estate Boards compiles and publishes semi-annually a survey of the real estate market for the United States and Canada, setting forth such data as the relative supply of buildings of various types, the demand and the supply of money, the trend of interest rates on real estate loans, and other data designed primarily to have a stabilizing effect upon the real estate market.

The field of research in real estate is still so new that it would be premature to undertake the construction of what might be compared to a contour map, showing the exact extent and volume of its achievements. While much has been done in adapting general economic principles to the real estate field, the comparatively small amount of really scientific work which has so far been completed must be characterized as

scattered, piece-meal efforts to solve here and there a few of the more pressing problems, rather than as a comprehensive structure dealing with all the major questions existing in this field.

#### SCARCITY OF PUBLIC RECORDS

It would not be quite fair, however, to leave the impression that research workers in this field have not accomplished all that could reasonably be expected with the data available. Very few realize how difficult it is to secure adequate data on any important problem having to do with real estate. While real estate represents the most important and the most valuable single class of wealth in the United States, it is impossible, for example, to compile anything like a satisfactory inventory of our real estate resources, not to mention a classification of these resources into the large number of major categories into which urban and rural real estate should be grouped. Even the aggregate value of real estate in the United States is nothing more than the best estimate which our census statisticians are able to compute. It is even more difficult to determine the return which various classes of properties in the community yield, the rates of absorption of new properties, or the volume of turnover. There are not more than two or three states in the Union in which sale and selling prices are available in public records. The scarcity of public records, combined with very inadequate and unsystematic private records and accounts on real estate, make it extremely difficult to get the data needed for solving most of the questions which arise. Under this handicap, it is surprising that so much creditable work has been done. As public records gradually give us more facts about real estate and as real estate accounting becomes more general and



standardized, we may hope in time to be able to solve a great many more problems than we can solve at present, and to be able also to prove or disprove popular opinions and assumptions, many of which are false and unsound and only lead individuals as well as our public authorities into trouble.

#### AGRICULTURAL LAND

To date the most thoroughgoing, systematic research has undoubtedly been made in the agricultural field. In this branch of the subject, the Bureau of Agricultural Economics of the United States Department of Agriculture has done more than any other agency in supplying the agricultural interests with current information about agricultural conditions designed primarily to facilitate the regulation of the production and the marketing of farm products. In the field of studies dealing with agricultural land utilization and land policies, the chief credit must be given to the universities, particularly the University of California, Cornell University, Kansas State Agricultural College, the Institute for Research in Land Economics and Public Utilities at Northwestern University, the Oklahoma Agricultural and Mechanical College, the Oregon State Agricultural College, Purdue University, and the University of Wisconsin.

Second in importance to the work of the universities in the compilation of land utilization surveys and the formulation of public land policies are such undertakings as the Michigan Land Economic Inventory, carried on by the Land Economic Survey Division of the State Department of Conservation, and the Comprehensive Survey of Rural Vermont. The Michigan and Vermont surveys are intended to furnish the basis of a comprehensive and constructive land policy for these two

states. The majority of the studies carried on by the universities whose work is being done chiefly in the fields of taxation, land values, land tenure, and land utilization, as a rule cover only certain selected typical areas, such as counties, with a view to drawing from these studies conclusions which may be applicable on a larger scale.

The great bulk of this work, it will be noted, lies in the field of rural problems. Less than half of the replies received, in response to a letter of inquiry sent to universities in which research studies in real estate and land economics are being carried on, made any mention of studies pertaining to the urban field. At the University of Michigan graduate students are working on long-term leases, real estate subdivision accounting, an economic history of selected subdivisions, fluctuations in residential rents in Ann Arbor, influences affecting growth of Michigan cities, and methods of social control of platting and improving real estate adjacent to large cities.

#### URBAN LAND

Urban land studies completed or under way in the Institute for Research in Land Economics and Public Utilities at Northwestern University include the use of deed restrictions in new subdivisions, financial policies in subdivision development, merchandising methods in subdivisions, public control in subdivision development, taxation of real estate in Cook County, the growth and shift of retail districts in subdivisions and towns of the Chicago region, the effect of public improvements on land values, the economic aspects of housing in the United States since the war, and the cyclical nature of subdivision activity in the Chicago region. At the University of Pennsylvania major studies are in progress on the effect of parks on land values, the legal

basis of real estate assessments, and causes of declining land values in certain sections of Philadelphia. The University of Wisconsin is making a survey of Madison, and Boston University is making a study of newspaper real estate advertising.

In addition to these more specialized urban and agricultural studies, a number of colleges and universities are engaged in real estate investigations which might be characterized as miscellaneous. Thus, the University of Michigan is at present engaged in a study of European housing conditions; Rollins College has under way an economic study of Florida from 1916 to 1926; Oklahoma Agricultural and Mechanical College is studying the economic progress of farmers, as well as the extent to which farmers move about from place to place; while the University of Wisconsin is making a special study of recreation as a form of land utilization.

The research projects, and the institutions listed above as conducting research in real estate, do not constitute an exhaustive catalogue of the research work which is being done in the United States in the general field of real estate and land economics. One of the principal branches of what should perhaps be termed a branch of real estate research is the work now being done by a large number of financial and real estate organizations which are constantly making investigations to guide them in formulating policies for their own individual projects. In the aggregate, this represents perhaps the greatest single course of data that we have today. This type of information, growing directly out of actual experience in the field, is all the more significant because it represents the conclusions reached by thoughtful and experienced men who, after careful study of similar cases, must make the

decisions governing the actual development of projects of all types.

#### AN IMPORTANT REFERENCE WORK

The most important collection of this information is contained in *The Annals of Real Estate Practice*, published annually by the National Association of Real Estate Boards. This annual volume, of more than one thousand pages, consists of the leading papers and research studies prepared during the course of the year by the ablest leaders in the real estate business, and represents the newest and the most constructive thoughts with reference to all the principal phases of the real estate business put forth during the year. Among the research studies made during the past year by the National Association of Real Estate Boards, reports of which are published in *The Annals of Real Estate Practice*, is a survey based on reports from one hundred and eleven cities on the estimated economic life of various types of real estate improvements, a study of the yield of mortgage investments of one hundred and four leading life insurance companies compared with the yield of investments of the same companies in stocks and bonds, and a manual of directions for making local real estate market surveys showing a detailed inventory of all types of properties in each city and a survey of vacancies in each class of property.

While the projects cited above, therefore, are not an exhaustive compilation of all that is being done in the field, the studies referred to do represent a very good cross section of the type of work in progress.

The ultimate objective of the entire program, whether viewed from the social or the private point of view, is the minimizing of losses and the producing of maximum utilities in real estate through more intelligent plan-

ning and building. The development of the United States during the past century moved forward with a rapidity unequalled in the history of the world. Very little thought was given to the planning of this development, and consequently the results both in rural and urban developments show very little forethought in planning and proper proportioning.

As long as the country was developing with unprecedented rapidity, many of the mistakes were covered up by the rapid succession of waves of development which in any event quickly rendered many projects obsolete, whether they were good or bad. The result has been that we have had an enormous amount of replanning and rebuilding in many of the older communities, together with an abandonment of many premature or ill-advised undertakings, the remains of many of which are still in evidence in many communities.

While in the past this rapid development and enhancement in values has helped to blot out many of our worst mistakes, the time has come when, on account of the enormous values involved, the consequences of blind and haphazard developments are becoming constantly more serious. The growing recognition that every new project must stand on its own feet and must repay its own investment without the aid of speculative increases in value is the most wholesome and reassuring aspect of the entire real estate world as it appears today. Never before has there been such a demand for knowledge and information in guiding the planning and the development of real estate operations, ranging from the building of single dwellings to the planning of whole cities. As a result, real estate research today enjoys a position of influence and responsibility unprecedented in the history of the United States.

# The Economic Importance of Real Estate Classification

By ALBERT G. HINMAN

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THE importance of classification has long been recognized in the biological and physical sciences. It has played a leading rôle in their development. It has also been recognized as essential to the development of a science of economics. Among economists, W. Stanley Jevons perhaps stands foremost in emphasizing the necessity and nature of scientific treatment. He says: "Science can extend only so far as the power of accurate classification extends."<sup>1</sup> Classification is essential to the scientific method. Karl Pearson places classification as the first step in the scientific method. He says: "We have defined the scientific method to consist in the orderly classification of facts followed by the recognition of their relationship and recurring sequences."<sup>2</sup>

Land, as a factor in economic production, has not been subjected to classification to the extent that have other factors. The only excuse for neglect in so treating it rests upon the assumption that land is homogeneous. But, is land homogeneous? Doubtless there are not many economists who would so characterize it today. Development of the study of land economics has brought out and emphasized the fact that there are many different kinds of land, and that we must determine in what class a given piece of land belongs before any policy can be laid down respecting it. "Most of the

ill-advised policies with regard to land have been due to failure to recognize this fact about land. As a result we have suffered from unscientific treatment of our land problems."<sup>3</sup>

## CLASSIFICATION OF PUBLIC LANDS

Dr. Richard T. Ely, the leader in the field of land economics, states that "the need for classifying land is a practical one and has public as well as private aspects," and that "neglect of classification has been not only a fatal defect of public policy, but has also doomed to failure many private ventures in land utilization."<sup>4</sup>

In his book, *A History of the Public Land Policies*, at the beginning of the chapter on the classification of public lands, Dr. B. H. Hibbard points out that there were meager attempts at classifying the land as far back as 1796. That little progress in classification was made for many decades after is indicated in a statement from a Government document of a much later date which Professor Hibbard quotes:

It is a curious circumstance that the method of doing that which was recognized as a necessity when the lands were so numerous has not been improved or kept abreast of the times and pursued with greater particularity when the lands have become comparatively scarce and the necessity for classification therefore the greater.<sup>5</sup>

<sup>3</sup> Dorau and Hinman, *Urban Land Economics*, p. 125.

<sup>4</sup> Ely and Morehouse, *Elements of Land Economics*, pp. 26-27.

<sup>5</sup> Sen. Doc., 60 Cong., 2nd Sess., No. 676, VI, p. 409.

<sup>1</sup> W. Stanley Jevons, *The Principles of Science*, p. 730.

<sup>2</sup> Karl Pearson, *The Grammar of Science*, pp. 18-19.

Professor Hibbard describes four periods in the history of the classification of public lands. The years prior to 1862 constitute the first period. They are characterized by the attention given to humid lands for agricultural use which culminated in the Homestead Act of 1862. The second period covers the years 1862 to 1879. The characteristics of this period were the attempts to classify more adequately the mineral lands. Recognition of the difference in physical conditions between the western half and the eastern half of the United States, and the necessity for a more complete classification of land before the remainder of the public domain could be properly disposed of, brought about the third period, 1879 to 1906. During this period the Reclamation Act of 1902 was enacted, which recognized irrigated land as a distinct class, and, through its approval of construction by the Federal Government, registered a change in opinion from belief in unfettered private initiative in the construction of irrigation works. The policy of public ownership of mountain forests in the West, largely to conserve the water supply for the irrigated lands, also became well established during this third period. The fourth period is characterized by awakening recognition of the need for conserving natural resources. Large areas of valuable coal land were withdrawn from entry in 1906, and in that same year the United States Geological Survey undertook detailed land classification work. During this period the Enlarged Homestead Act of 1909 and the Grazing Homestead Act of 1916 were enacted, which attempted to remedy the original Homestead law. "The significant feature of this period," says Professor Hibbard, "is the fact that scientific classification of the public lands has been adopted as preliminary to their disposal or utilization,

and that in this disposal or utilization the duty of conserving the national resources is clearly recognized."<sup>6</sup>

From this brief survey of these four periods, it is evident that it has taken many years for real recognition of the necessity for classification and scientific treatment of the public domain to develop. Mistakes which have been made have forced this recognition. It is seen that we are suffering today from mistaken policies of years ago as to the disposition of our natural resources, which could have been avoided if careful classification had been used. In pointing this out, Professor Ely says:

For many years the Federal Government made no attempt at all adequate to classify the public domain in order to dispose of it to advantage. The publicly owned land area was divided into 40-acre tracts, and during the greater part of our history these tracts were generally sold in groups of four, called a "quarter-section." Each tract was sold as a unit with little regard to its fitness for agriculture, forest culture, ranching, or mineral extraction. Petroleum land was sold on an agricultural basis. Forest land was sold to private individuals just as if it were land suitable for growing grain. Ranch land was disposed of without regard for the requirement of large areas by the ranching industry. Swamp lands were given to states for reclamation without an adequate survey. California, for example, received some "swamp land" without any water on it. Only in comparatively recent years has the Federal Government classified its public domain according to fitness for different uses, and that has been a partial classification occurring after it had disposed of the larger part of the public domain. Our past public policy of land administration would have brought more wholesome conditions in the present if more adequate classification according to the characteristics of the land had preceded the disposal of it.<sup>7</sup>

<sup>6</sup> B. H. Hibbard, *A History of the Public Land Policies*, p. 493.

<sup>7</sup> Ely and Morehouse, *op. cit.*, pp. 26-27.



In summing up the situation as to the classification of public land, Professor Hibbard says:

Particularly should the remaining public land be classified with respect to its agricultural policies. . . . Overproduction of farm produce has been the bane of farming during the last half century, with the exception of a few years—abnormal years during the war. How to limit agricultural production is a conundrum not yet solved, but in any case the Government, states included, may well cease helping to create from year to year a new crop of submarginal farmers. To get submarginal land out of the farming category, and into a use for which it is fitted, would be a worthy goal in a land policy at once desirable and attainable.<sup>8</sup>

Thus is indicated the importance of land classification in one of the most difficult economic problems of today.

#### ECONOMIC IMPORTANCE OF CLASSIFICATION

Not only in the field of conservation, through right utilization of our natural resources, is the economic importance of classification being recognized, but also in the field of taxation. J. V. Van Sickle, writing in the *Quarterly Journal of Economics*, referring to suggested remedies for the general property tax, says:

While those remedies are preferable to the existing system, they continue for land taxation the defect inherent in the general property tax. They propose a rule of uniformity where there is no uniformity. They assume that land is land, whether it be agricultural land or residential land, forest land or mineral land. As a matter of fact, there is as much need for distinguishing between different kinds of land as between land and personalty. This need is not due to the administrative impossibility of taxing different types of land at the same rate, but to considerations of public policy. The very fact that the rule of

uniformity can be enforced successfully is what makes the general property tax detrimental to wise land utilization. The uniform rule cannot be and should not be applied to tangibles and intangibles; it can be applied to land, but should not be.<sup>9</sup>

Further on in this article, this author describes the Austrian land tax as it existed before the war. While this is not advanced as a perfect method for taxing land, it is an example of the classification of land for tax purposes. Non-residential land was classified into eight classes: crop land, meadow, market garden or truck land, vineyard, pasture, mountain pasture, forest, and lake, swamp, and marsh land. Any land not falling into one of these classes was either entirely exempt or classed for tax purposes with the immediately adjacent land. Within each class provision was made for eight grades according to productivity. In all there were sixty-four grades of land. For every grade of land in every district there was an assumed average net income which an average owner might be expected to earn. He was taxed upon such an income, whether he derived more or less in any given year. Thoroughgoing economic surveys preceded the assignment of lands to their proper classes and also the figuring of average expected earnings. Urban land was usually taxed according to its actual income and at a higher rate than agricultural and forest land. Land outside the city limits held idle for subdivision purposes was taxed as the adjacent agricultural land, but once subdivided and improved, it was taxed according to its real income.

While all of the elements in this continental tax system may not be desirable nor applicable in this country, it does suggest that we can go much fur-

<sup>9</sup> J. V. Van Sickle, "Classification of Land for Taxation," *Quarterly Journal of Economics*, Nov., 1927, pp. 94-95.

<sup>8</sup> *Op. cit.*, pp. 561, 569-70.

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ther than we have in classifying land for tax purposes. Some headway has been made in this direction. While not setting up any different ratios of assessment for the different classes of land, the legislature of the State of Kansas in 1911 amended the law relating to the assessment of real estate so as to require the county assessor to provide each deputy assessor with a field book in form to be prescribed by the tax commission, and to be arranged for the gathering and reporting of such facts in relation to real estate and real estate values as the commission might require. The commission prescribed a form of field book setting up certain classes of land for which data were to be reported. Two main divisions were created, one designated as "Whole Tract," the other as "Whole Tract, Classified." The first division was subclassified into land that could be plowed and tilled, upland, and bottom land. The second division was subclassified into pasture (tillable and non-tillable), timber (not so used and used for pasturage), orchard, arable, and cultivated.<sup>10</sup>

The State of Minnesota also set up classifications of land in its classified assessment law, chapter 483 of the laws of 1913. Under this law,

unmined iron ore is taxable at fifty per cent of full value, platted real estate at forty per cent, and unplatted real estate at thirty-three and one-third per cent of full value.

There are indications, thus, that land classifications may play an important rôle in future policies of real estate taxation. That students of taxation recognize a need for classification in the general property tax was brought out as far back as 1912 in the report,

before referred to, of the Kansas Tax Commission to the National Tax Association. In discussing the existing difficulties and inequalities and possible remedies, this report said:

To the end sought, a correct classification of real estate according to quality is an indispensable prerequisite. Such a classification with an arbitrary assignment of schedule values based in general upon market values, the assignment to be made by a central county authority, would be vastly preferable to the present haphazard exercise in many jurisdictions of the separate judgment of a number of assessors in a given county.

#### DEVELOPMENT OF LAND PLANNING

The thing which is emphasizing the economic importance of real estate classification more than anything else, however, is the development of land planning. Land planning is playing a larger and larger part in the economic progress of land utilization. Planning associations and commissions are steadily increasing in number and in influence. Regional planning is a subject of wide interest today, and it has greatly broadened the scope of planning. It includes not only a plan for the city, but also a plan for the region surrounding the city, in what has been called the metropolitan area. There are now indications that the scope of land planning will be broadened still further to include the state and even the nation in a large, comprehensive plan.

The economic significance of land planning hardly needs to be emphasized, as it is well recognized. Its aim is to secure the most efficient utilization of land, which is but another way of saying the most economically productive utilization of land. If the scope of planning is widened to the greatest extent, as has been suggested, it will include the remainder of the public

<sup>10</sup> *Classification of Real Estate, Kansas Tax Commission. Report of the Sixth Annual Conference of the National Tax Association, pp. 355-69.*

domain and all privately owned lands concerned in the aims of conservation. It will, probably, also be concerned with policies of taxation, directly if taxation, counted as a cost, can be said to have any influence upon land utilization, and indirectly if a more efficient utilization of land will make possible more tax revenue from land. It should be noted in this connection, for example, that it has been claimed that the tax upon forest lands counted as a cost by the land owner has forced him to cut his timber before it should be cut and also that it has caused owners of cut-over land to allow their land to revert to the Government rather than pay the tax cost of holding it, the Government thereby losing all revenue from this land. It has been suggested, therefore, that this class of land should be taken over by the Government because it can better afford to hold it for the long period of time necessary for the timber to ripen to the correct stage for cutting, or that it should be treated differently from other classes of land in tax policies. It has also been claimed that in certain states agricultural lands have been allowed to revert to the Government because the farmers could not pay the taxes. The writer is not implying any particular position with regard to these claims and suggestions. He merely uses them as examples to indicate that land planning to secure conservation through right utilization may have to consider land classification with regard to tax policies.

If we recognize the economic importance of land planning, we must also recognize the economic importance of land classification. Classification is a concomitant of any scientific procedure in land planning. In classifying land, however, full regard must be given to the economic considerations involved. It has been said that merely technical engineering factors have too many

times been almost the sole consideration in planning. This criticism has been raised chiefly with respect to the classification and planning of avenues for traffic, that such traffic surveys as have sometimes been made have really been only quantitative measurements of present traffic flow. If these criticisms be true, remedies based upon such analyses may be found to be misconceived at a later date. We must not only know what and where the traffic flow is now; we must also forecast its trend in the future. To do this, we must study the economic relationship between districts. From what districts is traffic coming now, and to what districts is it going? Then we must analyze the economic factors which have located different districts where they are and influenced the traffic flow. Finally, we must try to foresee how economic factors may cause changes in these districts in the future which will shift the traffic flow.

#### ZONING OF DISTRICTS

Such regard for economic factors is equally necessary in the classification and establishment of districts by zoning. The zoning of districts upon the basis of present needs may seriously hamper the future development of a city and its metropolitan area. It has been said that too much zoning has been done haphazardly, without planning, and that many cities in the future will suffer from misconceived ordinances of today. Planning, which involves classification based upon a thorough understanding of economic considerations, must precede zoning. Zoning ordinances must be understood to be only the necessary instruments for putting planning into effect.

In classifying land, it must be realized that classification is not an end in itself. It is useful only when it is prepared with a specific purpose in



view. Land lends itself to innumerable different classifications, any one of which could be carried on to indefinite limits. There is some danger in classifying that it may be confused or carried on beyond its real usefulness or without all ends in view. The purpose may not be clear or several different purposes may not be properly related. Thus, the purpose of classification must first be clearly conceived, and then it must be studied with regard to other purposes of classification. Thus, to classify districts for the purpose of setting up density of population restrictions, without regard to the classification of districts for the purpose of setting up construction requirements, might lead to serious difficulties. Suppose, for example, that a certain district were so classified with respect to density of population as to permit large apartments, and then this district were so rated in another classification as to permit the erection of structures which would be firetraps. Such mistakes have been made, and once buildings have been erected it is very difficult to remedy the situation. The value of a classification, thus, is judged by its utility for the purpose for which it was made in relation to other purposes with which its immediate purpose must be allied.

It is the purpose which determines the basis upon which a classification is made. The general bases for real estate classification are the physical, the legal, and the economic. When land is classified solely upon a physical basis, physical characteristics are looked for: topography, water area, ground area, and so forth. When land is classified upon a legal basis, matters of ownership are considered: public ownership, private ownership, and so forth. When land is classified upon an economic basis, study is made of the way in which man has utilized the land for

his economic satisfaction. The economic basis is the most important of the three. Economical utilization which procures conservation is the real aim of planning. Thus, to classify land only on physical or legal bases would be inadequate. All three bases ordinarily should be considered, and a very useful composite classification is the result. The general classification of natural resources set forth below, which has been suggested by Professor Ely, combines the physical and economic bases:

#### SUGGESTED CLASSIFICATION OF NATURAL RESOURCES <sup>11</sup>

- A. Subsurface appropriation—oil, gas, minerals, stones, salt, et cetera.
- B. Surface appropriation.
  - 1. Site purposes
    - (a) Urban { Manufacturing  
Mercantile  
Residence  
Recreational
    - (b) Building sites, non-urban
  - 2. Land for agricultural purposes
    - (a) Arid land
      - (1) Irrigable
      - (2) Non-irrigable { Timber  
Grazing  
Dry farming  
Desert
    - (b) Humid land
      - (1) Natural appropriation
        - (a) Forest and pasture
        - (b) Swamps for rice, bay, cranberries
      - (2) Cultivated { Farm  
Garden  
Forest
  - 3. Land for transportation and communication
  - 4. Recreational land
    - (a) Natural parks
    - (b) Forest and stream
    - (c) Highways
- C. Water and land connected with it.
  - 1. Shore lands
  - 2. Land under water
  - 3. Riparian land

<sup>11</sup> Ely and Morehouse, *op. cit.*, p. 30.

- 4. Irrigation water
- 5. Navigation water
- D. Supersurface appropriation for the aeroplane and radio.

Another classification, for urban land, which has been suggested, represents a composite of the three bases, physical, legal, and economic:<sup>12</sup>

- A. Water area.
  - 1. Publicly owned
  - 2. Privately owned
- B. Land area.
  - 1. Publicly owned
    - (a) Unutilized
      - (1) Utilizable (economically)
      - (2) Unutilizable (economically)
    - (b) Utilized
      - (1) Transportation
        - (a) Streets
        - (b) Alleys
        - (c) Railway rights-of-way
        - (d) Miscellaneous
      - (2) Recreation
        - (a) Parks
        - (b) Playgrounds and athletic fields
        - (c) Beaches
      - (3) Education
        - (a) Schools
        - (b) Libraries and museums
        - (c) Auditoriums
      - (4) Social Service
      - (5) Political administration
      - (6) Municipal enterprise

- 2. Privately owned
  - (a) Unutilized
    - (1) Utilizable (economically)
    - (2) Unutilizable (economically)
  - (b) Utilized
    - (1) Residential
      - (a) Multi-family
      - (b) Single family
    - (2) Commercial
      - (a) Retail
      - (b) Wholesale
    - (3) Industrial
      - (a) Light
      - (b) Heavy
      - (c) Nuisance
    - (4) Institutional

From the above suggested classifications, it is evident that the three bases are closely related in the classification of land for almost any purpose. It would be difficult to conceive of any purpose for classifying land which would not require consideration of physical, legal, and economic factors. Nevertheless, it is the economic factors, in the utilization of land, that are of fundamental significance. This should point out clearly the economic importance of real estate classification. The reader should note, however, that this very economic importance places the obligation upon real estate classification that it be properly used, that it follow a clear definition of purpose, and that it include only such factors, but all such factors, as make it economically useful.

<sup>12</sup> Dorau and Hinman, *op. cit.*, pp. 147-48.

# Real Estate as a Marketable Commodity

By WILLIAM H. TEN HAKEN

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A COMMODITY which forms the basis of all wealth and which is also instinctively desired by the entire human race can hardly be classed as unmarketable. Yet, that is precisely what the best-known writers on the subject of marketing seem to have done in the omission of real estate from their discussion of marketable commodities. They discuss at great length the marketing of agricultural products, of products of the forests and mines, and of manufactured products, but devote not so much as a single paragraph to the buying, the selling, and the exchanging of real estate, which comprises about sixty-five per cent of our national wealth.

## LAND AS A FACTOR OF PRODUCTION

It was my privilege to be associated for several years with a prominent research organization which has adopted the slogan, "Under All, the Land." These four words express more emphatically than hundreds that I might use the basic importance of land in our economic system. I do not wish to take the writers of treatises on marketing to task too severely, however, for ignoring real estate as a marketable commodity. Until about ten years ago, land as a factor of production had received very little attention from writers in the field of economics. This may have been due to the fact that familiarity had bred contempt. All of us, from childhood on, have been so intimately associated with land that we have taken it more or less for granted. The other factors of production, labor, capital, and the manager,

had for years been written about, but land, the primary factor, without which none of the other factors could continue to exist, or could even have come into existence in the first place, had for these many years been sadly and strangely neglected. So it is but natural that a discussion of the marketing of real estate should, even up to the present time, have found no place in marketing literature.

The wording of my title, I believe, presupposes that real estate is a marketable commodity, and I shall, therefore, not attempt to prove that it is such. Suffice it, in the brief space of this article, to point out the outstanding peculiar characteristics of this commodity which are of significance in its marketing. It will be left to the reader to make his own mental comparisons between each one of these and those of the generally accepted marketable commodities.

The legal content of the term "real estate," or, more precisely, "realty," is, land and all that is attached permanently to the land, or so intended. There are certain exceptions to this rather broad definition, specifically defined by statute; but, generally speaking, all permanent improvements made on the land, such as buildings, as well as all appurtenances which have been made a part of them or which are necessary to their completeness, are included in the classification of realty. Lack of space compels me to confine my discussion to the so-called natural element in real estate, that is, land, and more particularly to urban land.

One of the leading writers in the

marketing field divides the characteristics of marketable commodities into three major classes: (1) physical characteristics of the commodity; (2) characteristics of the production of the commodity; and (3) characteristics of the use of the commodity. Let us analyze urban land from these three points of view.

#### IMMOBILITY OF URBAN LAND

The first and most important physical characteristic of urban land which is of economic significance is its immobility. This obvious attribute constitutes at once a market asset and a liability. There are a certain number of choice sites near the heart of the downtown business section of any city and a certain number of ideal home sites in the high-class residential districts. Conditions remaining as they are, these business and residential sites need never fear competition from those less suitably located. The physical immobility of land is a market asset to the former sites, and a liability to the latter; but each has been lessened by the economic mobility of the sites which have the less favorable locations. By this I mean that although the physical location of a particular site cannot be changed, its economic location can be improved, thus narrowing the gap which exists between the well-located and poorly-located sites. As the means of transportation are increased and the methods improved, business centers are being made more accessible to the outlying districts, and outlying districts are being brought closer to business centers. A lot located a distance of ten miles from the business section, but only a short distance from adequate electric or motor transportation, may be more valuable for residential purposes than a lot located only one mile away with no downtown transportation of any kind.

Time, not distance, has become the criterion of convenience to the central commercial area of the modern city. Hence, faster forms of transportation have a tendency to offset the obvious disadvantage of physical immobility in the case of urban land.

A second physical characteristic which rivals the first in the importance of its economic implications is that of indestructibility. Urban land cannot be destroyed. It is true that other kinds of land may become less valuable through the removal of certain elements which give them value. Agricultural land may lose some of its fertility. Forest land may have all of the trees cut down and removed. Mineral land may have all of its valuable minerals extracted. But all land, and particularly urban land, has one valuable attribute which nothing can destroy, namely, its extent, area, standing-room, space, or whatever designation it may be given. That is absolutely not subject to destruction, either by the hand of man or by nature. Since the principal service which urban land renders is to furnish standing-room, and since this is indestructible, no provision need be made for maintenance or for depreciation. Although this fact seems to be a decided advantage to urban land, considered from the investment point of view, it is not entirely so. One who has invested in a depreciable commodity has the opportunity of gradually withdrawing the amount of his investment from it by failure to maintain it. This is sometimes desirable when the investment has proven to be a failure. But, one who has invested in the non-depreciable commodity, urban land, does not have this option when the land has been dedicated to a certain use for a number of years by the erection upon it of a certain type of building.

### LACK OF HOMOGENEITY

A third physical characteristic of urban land, which follows necessarily from its physical immobility, is its lack of homogeneity. No two parcels of land can be exactly alike, since each differs from every other in at least the one particular of geographic location. To this dissimilarity of units can be ascribed one of the several peculiarities of the real estate market, as distinguished from almost every other type of market. Land is a commodity which cannot be standardized, and hence there can be no substitution, nor short selling. In every transaction, a certain particular piece of land is bought and sold, which fact precludes market quotations from day to day, from week to week, or even from month to month. The nearest approach to such market data is the prices quoted for similar lots in a subdivision and for frontage on a certain street. Pieces of land are also physically dissimilar from the point of view of topography, although topographical conditions can be changed or be modified so as practically to eliminate the differences.

When we come to the consideration of the characteristics of the production of urban land, we are treading on controversial ground. There are those who maintain that land is not produced, but is a free gift of nature. However, if we look upon production as consisting of the creation of form utility, time utility, and place utility, we can scarcely deny the fact that before almost every urban site is utilized there is created by someone either form or time utility, or both. Very few parcels of urban land are utilized in their original form, nor do very many escape the transition period between agricultural and urban use. Again, when a site is changed from one urban use to another, time utility is usually

created by the owner. Someone must necessarily hold the land when it is first being developed for urban use, and make the necessary changes in its form, such as, grading, draining, filling, laying out of streets, and so forth. After all, the production of so-called manufactured products consists of nothing more nor less than changing the form of certain raw materials furnished by the earth. The difference between the creation of form utility in a piece of furniture, for example, and the creation of form utility in a city lot ready to be built upon, is only a matter of degree. Similarly, one who holds a vacant lot until there is a demand for its improvement, or an improved lot in a lower use until there is a demand for its higher use, is a creator of time utility no different from that created by the furniture retailer who keeps the piece of furniture in stock until there is a demand for it.

### LARGE-SCALE PRODUCTION OF URBAN LAND

The development of our modern cities is characterized by large-scale production of urban land, which results in lower costs per unit. The purchasers of lots in a large subdivision benefit because the overhead costs, as well as the actual expenditures for development, are spread over many units of the product. Here we have the closest approximation to a standardized commodity in the real estate market, and consequently there are not infrequent sales without inspection. The economies incident to large-scale production of residential lots in subdivisions are probably responsible for overproduction in this field of real estate activity in many cities of the United States. In fact, there is very little question but that the underlying cause of our present dull market is fundamentally an overproduction of various



types of buildings and of subdivisions. Real estate is a form of wealth which is not unique in this respect, but something which is a produced and reproducible good, in which overproduction is just as likely to occur as in any other line of industry.

So far as the method of production is concerned, we may say that urban land is produced largely by nature, partially by hand, and partially by machinery. Nature endowed certain geographic locations with distinct advantages over others, such as, proximity to agricultural resources, to fishing resources, to lumbering resources, to water power resources, to mining resources, and to points of advantage for trade. Other respects in which some locations surpass are the suitability of the soil for building construction, and healthful climatic conditions. Most of these factors have lost much of their importance in the determination of the location of our newer cities, but they are responsible for the original location of the largest cities of the world. Modification of the original form of land for urban utilization is accomplished both by hand labor and by machinery. Nature generally produces without uniformity, but in the case of land within a given urban area, the differences are principally those of location rather than of physical quality.

The length of the production period of urban land depends largely upon whether or not the time is opportune. In some cases of premature development of an outlying area considerable time elapses before the last lot is sold, sometimes as long as five or ten years. The holding of these last lots until they are wanted by the ultimate consumer or utilizer, as I have already intimated above, is just as much a part of the productive process and of equal significance with the initial surveying, the laying out of streets, platting, leveling,

drainage, or filling. Generally speaking, the length of the production period of urban land is greater than that of almost any other commodity, not excepting those commonly held in storage for long periods. We may even say that the production of urban land in the typical growing American city is never definitely terminated. It is actually a continuing process, since it is constantly being improved and even reproduced. The process becomes most apparent when a site is changed from one use to another, but should also be recognized when it takes the form of merely holding a site out of a possible present use for some more economical future use.

#### CHARACTERISTICS OF USE OF A COMMODITY

The characteristics of the use of a commodity, or the characteristics of the consumer's attitude toward it, affect marketing channels and methods probably to a greater extent than either of the two classes of characteristics already discussed. Of these the scale of consumption, or the quantities which individual consumers will purchase, is no doubt the most important and the most significant. The consumer of urban land, whether he purchases for his own personal use and enjoyment, or for some impersonal and productive use, is essentially a small-scale consumer, so far as the number of units which he will ordinarily buy is concerned. One home site or one business site, or one of each, represents the average individual's consumption scale. What is more, one purchase in a lifetime is in many cases the sum total of the individual's purchases of urban land. The nature of the demand for urban land being such, that is, for one unit at a time and only one time for most people, presents certain marketing problems which I shall briefly review.

The large-scale consumer of urban land, as of every other commodity, generally possesses considerable knowledge of its value, its most profitable use, its future possibilities, whether his knowledge has been acquired scientifically or from practical experience in dealing with it. Many large-scale utilizers employ experts to examine and to purchase sites in various urban areas. The modern chain store is an outstanding example of corporations which follow this practice. On the other hand, the small consumer generally has a very superficial and inadequate knowledge of urban land as a commodity in the market, necessitating his dependence almost entirely upon the word of the local retailer, or broker, and upon his advertising. Service is of relatively more importance to the small-scale consumer than to the large-scale consumer because of his comparative ignorance of underlying hidden factors and of details involved in a real estate transaction.

Another characteristic of the use of urban land is that it is used by many consumers. Many purchasers call for many brokers and a relatively high degree of specialization in the handling of the various types of urban property. Commodities purchased by many consumers are more likely to be subjected to a higher degree of social control. Real estate is no exception to this general rule. Prior to the legislative year of 1929, twenty-two states had enacted license laws for real estate salesmen and brokers, and during the past year three others have written license laws on their statute books for the first time, making license legislation effective in more than fifty per cent of the states of the Union. Six other states had bills introduced providing for licenses which failed of passage last year, while interest in the license law movement was noted in three other

states, although no bill was presented in any of these. This leaves only fourteen states in which such interest has not been manifested.

The most remarkable feature about this comparatively recent development in the real estate marketing field is that the initial move toward raising the standards of integrity and of conduct, which is the object of all license laws, has come from those engaged in it themselves. The ultimate goal for which the large majority is striving is the professionalization of the real estate business. The most important reason why the marketing of real estate should become a profession is because a mistake in the purchase of land by the one who utilizes it is so serious. Many a man, a victim of high pressure salesmanship, who has bought poor land, or good land at an exorbitant price, has shouldered himself with a burden which he is not able to shake off until death relieves him, and then only to have the burden passed on to his children. The marketing of real estate is constantly becoming more and more complex and specialized; hence the urgent need of putting it upon a higher and higher plane.

#### LAND AS AN INVESTMENT

A last characteristic of the use of urban land is that it may be purchased as an investment, in which case it is looked upon with little personal interest, and more and larger purchases are usually made. As a marketable commodity, it must then stand or fall by its own merits or demerits as a form of investment. First, let us see what the marks of a good investment are, and then let us apply these tests to real estate. A good investment has three main characteristics. Others may come to mind, but they are relatively unimportant. Security of principal is, without a doubt, the first in order of

importance, followed by fair rate of return, and ease of liquidation.

A careful investor does not put his money into anything unless there is a reasonable degree of certainty that its value will remain at least as great in the future as it is at present. I am not speaking of gamblers or even of speculators. Both of these classes of pseudo-investors are willing to "take a chance" on the value's going either up or down. In that respect there may be but a slight distinction between them, largely a matter of degree. A gambler bets that the price will go up, without having any intelligent basis for thinking so. His risk factor is fifty per cent, there being just as much chance of its going up as its going down, and vice versa.

A speculator forecasts price changes, and to the extent that this is done scientifically and intelligently his risk is decreased, though far from being removed entirely. Faulty forecasting means loss, which the speculator must bear. The difference between a speculator and an investor lies largely in their attitudes toward risk. The speculator is willing to assume the risk involved, while the investor prefers a moderate return with the least possible risk. To be sure, the latter must assume some risk in any investment, but he reduces this to a minimum. If his principal is reasonably secure, the first requisite of a sound investment has been met for him. He looks for his gain primarily to the annual income of interest or dividends, which constitutes the second characteristic of a good investment, namely, a fair rate of return.

The third characteristic, ease of liquidation, becomes important only when the investor wishes to use his money or to transfer it to some other form of investment. The ease with which he is able to dispose of his hold-

ings for an amount of cash equal to what he paid for them, becomes a matter of vital importance at such a time.

#### IS REAL ESTATE A GOOD INVESTMENT?

How does real estate measure up to these three qualifications of a good investment? Security of principal is assured in real estate as it is in no other form of investment, especially in so far as the land is concerned. This also applies to the improvements when land is properly improved, that is, put to its highest and its best use. As I have already stated in another connection, urban land, at least, cannot be destroyed, because standing-room is not subject to destruction.

But, you may say, physical indestructibility does not spell permanent value. Quite right, but this fact does eliminate a good share of the risk involved. Cannot land go down in value, like anything else? Certainly, and there are not a few illustrations of just that happening. But, the general trend of land values over a long period of time has always been upward. If land is purchased in a normal market, at a fair market price, the odds are very heavy in favor of its value actually increasing—not merely remaining as it is, or decreasing. Investment in real estate is especially desirable from the point of view of security of principal.

Does investment in real estate offer a fair rate of return? Again, we must say that real estate purchased in a normal market, at a fair market price, will bring a return equal to, if not greater than, the return obtainable from other forms of investment affording similar security of principal. These first two characteristics of a good investment are so closely related that they are inseparable. If the security of principal is very good, the rate of return is bound to be only moderate,



and if the security of principal is not so good, the rate of return tends to be correspondingly higher.

So far as the third and least important characteristic of a good investment is concerned, real estate appears to be at a disadvantage. There is no free buying and selling of real estate as there is of listed stocks and other securities. But, this very quality has much to recommend it. It is not as easily borrowed upon as a security with a ready market, which serves as a protection against rash and impulsive ventures. It does not have a due date,

as has a bond, and may therefore remain a satisfactory investment through several lives, and finally be sold at a great profit to the beneficiaries. It allows an individual control entirely impossible in most other types of permanent investment, such as shares of stock in a corporation.

One of the greatest Americans, Theodore Roosevelt, once said: "Every person who invests in well-selected real estate in a growing section of a prosperous community adopts the surest and safest method of becoming independent, for real estate is the basis of wealth."

# An Organized Real Estate Securities Exchange

By CYRUS C. MILLER

President, New York Real Estate Securities Exchange, Incorporated, New York City

**D**URING the last twenty years it has been apparent with ever increasing clearness to students of the problem that the old way of handling real estate in the cities in single, small parcels by single owners, was passing. Increasing demand for better housing conditions produced buildings erected on larger ground areas and created larger units. Office buildings and industrial buildings increased in cost and size in the same way. This cost became greater than the average buyer could pay, so that the builder, in order to recover his capital from the operation for use in other operations, had to devise some way of splitting up the ownership, in order to make it possible for the small buyer to contribute his money to the enterprise.

The method came into use of having multiple owners of the property, either in participation in the ownership of the fee, in the ownership of the stock of the corporation owning the property, or in the ownership of small certificates based on mortgages on the property. It received public favor, and many millions of dollars' worth of such securities were sold. However, it was found that the plan had two weaknesses. One was that there was no organized body, in which the public had confidence, to give approval to such certificates before they were sold, and the other was that there was no market in which to sell them. The only course the holder had was to hold them until maturity and to return them to the issuing house with the request that the house buy them, or to get such price as he could from a private buyer.

This lack of market had the effect of locking up many millions of dollars invested in such securities and rendering them frozen. A vast amount of capital at present is locked up in these securities, which are comparatively unmarketable and are not available as collateral in banks. The organizers of the Real Estate Securities Exchange hope to afford a place where the public may trade in safety in real estate securities, and where such securities will be liquid so as to be sold or used as collateral.

## REAL ESTATE AS AN INDUSTRY

Real estate, as operated in the large cities at least, is an industry—the largest basic industry in the country. Other industries, such as railroads, commercial companies, and the like, carry on their business from the money received from the public by the sale of their securities, which securities in turn are readily salable on a public exchange, such as the New York Stock Exchange and the New York Curb Exchange. In the competition with such companies for the dollar of the public, real estate was at a disadvantage, as there was no means in existence whereby its securities could readily be bought and sold. It was recognized that the continuance of such conditions would hamper the development of the industry.

As real estate operations grow larger, corporate ownership and management must become more common. One result of this will be the elimination of waste in real estate. One might state without exaggeration that no other

industry could suffer the waste from inexperienced ownership, speculative and costly building, poor architecture, neglect, diversion of revenues, injurious neighborhood buildings, and other causes too numerous to mention, and still survive. Corporate management, with adequate capital, trained executives, able and experienced architects and engineers, will have the effect of creating and preserving values. The standardization of the planning, construction, and management of real estate improvements will follow.

Of all the large industries, real estate alone has no securities index. The securities handled on the Exchange should represent a large percentage of the investments in real estate in the United States and should make available an index comparable to the other group investment indexes made possible by the listings of the New York Stock Exchange and other exchanges. Such an index will be invaluable in measuring relative national investment positions of the various groups and will serve to indicate the national flow of investment capital into well-defined channels. It should serve as a barometer to the national condition of the real estate industry and to the economic condition of the nation. The existence of such a barometer should serve both as a check against overbuilding and as an additional safeguard in providing at all times adequate housing and office facilities.

#### PURPOSES AND OBJECTS OF THE EXCHANGE

For these reasons the New York Real Estate Securities Exchange, Incorporated, was formed. It was sponsored by the Real Estate Board of New York, Incorporated, an organization which has in its membership most of the prominent real estate owners and dealers in New York City.

The purposes and objects of the Exchange, as expressed in its charter, are:

*First.* To facilitate the negotiation, sale, and transfer of all stocks, bonds, and any or all other securities pertaining to or connected with real estate, the financing of real estate transactions or issuing out of real estate.

*Second.* To afford a market and maintain a regular place for the sale, transfer, or other disposition of any such stocks, bonds, or other securities.

*Third.* To make investigations of any real estate transaction in connection with which any bonds, stocks, or other securities may be sold or offered for sale or listed or offered to be listed upon the Exchange, and to take such steps as may be expedient or advisable to prevent the sale, transfer, or other disposition of any such stocks, bonds, or other securities as may be prejudicial to the public welfare or to real estate or to the Exchange. . . .

*Fifth.* To do all and everything necessary, suitable, advisable, and/or proper for the accomplishment of any of the purposes, or the attainment of any of the objects, or the furtherance of any of the powers hereinbefore set forth.<sup>1</sup>

The Exchange is located at twelve East Forty-first Street, New York City, and is equipped with administrative offices and a floor for trading similar to the New York Stock Exchange or the New York Curb Exchange, although on a smaller scale. The rules are similar to the two exchanges named.

#### QUALIFICATIONS FOR MEMBERSHIP

The qualifications for membership are as follows:

*Section 1.* No person shall be eligible for membership whether by original application, by transfer, or otherwise, unless he be a citizen of the United States, at least twenty-one years of age, and a member in good standing as an Active Member, Class

<sup>1</sup> Constitution of the Real Estate Board of New York Exchange, Inc., pp. 3-4.

A or Class B, Borough Broker Member, Non-Resident Broker Member, Sustaining Member, Contributing Member, Class A or Class B, or Honorary Member of The Real Estate Board of New York, Inc.

*Section 2.* The number of members of the Exchange shall be 500, which shall constitute the original membership. This number shall not be increased except upon action by the Board of Governors which shall determine the number by which the membership may be increased and prescribe the conditions of admission, except that the price of such membership fixed by the Board of Governors shall not be less than the price of original memberships. Such action must be submitted to the members of the Exchange at a regular meeting or at a special meeting called for that purpose and approved by a two-thirds vote. [Temporarily, by resolution of the Board of Governors, the membership of the Exchange has been limited to 250.]

*Section 3.* There shall be paid to the Exchange by original members such sum as may be fixed by the Board of Governors, which may include the initiation fee. Members admitted by transfer shall pay to the Exchange an initiation fee of one thousand dollars, except as hereinafter provided. [The membership fee is \$5,000; the annual dues are \$300. For the first 500 members, the initiation fee is included in the membership fee.]

If and when the number of members shall be increased over 500 by action taken under the preceding section of this Article, the Board of Governors may fix an initiation fee in excess of one thousand dollars for members thereafter admitted and however admitted.

*Section 4.* If the initiation fee of an applicant for admission to membership is not paid within three days after his election and notification by the Secretary, such election shall be void.

*Section 5.* No person shall be deemed a member nor exercise the privileges of membership unless and until he shall have subscribed his name to the Constitution and pledged himself to be governed by the same and by any amendments or additions theretofore or thereafter made, and to abide by any and all rules of the Board of

Governors and rules and regulations made or adopted pursuant to the Constitution, and all decisions, orders, directions, and all regulations made or adopted under the authority thereof, and unless he continues to be a member in good standing of The Real Estate Board of New York, Inc., as provided in Section 1 of this Article, so long as he is a member of this Exchange.

If the applicant is a Real Estate Broker, Mortgage Loan Broker, Agent, Appraiser, or Auctioneer, with business headquarters in the Borough of Manhattan, city of New York, he must apply for Active, Class A membership, unless he happens to be a partner or an officer in a firm which is already represented by one or more Active, Class A members, in which case he is eligible to Active, Class B membership.

If the applicant is a Real Estate Broker, Mortgage Loan Broker, Agent, Appraiser, or Auctioneer, whose main office and main business is in any other borough of the city of New York except Manhattan, he must apply for either Borough Broker membership or Active, Class A membership.

If the applicant is a Real Estate Broker, Mortgage Loan Broker, Agent, Appraiser, or Auctioneer, whose business is conducted wholly or mainly outside of the city of New York, he must apply for either Non-Resident Broker membership or Active, Class A membership.

If the applicant is not a Real Estate Broker, Mortgage Loan Broker, Agent, Appraiser, or Auctioneer, he must apply for either Sustaining membership; Contributing Class A membership, or Contributing Class B membership.

#### THE COMMITTEE ON LISTING

Before a security may be traded in on the floor of the Exchange as a listed security, it must be approved by the Committee on Listing. For temporary trading, however, some securi-

ties are granted the privilege of being traded in on the floor, but it is understood that such privilege does not have the weight and the value which pertain to a security which has been listed after being scrutinized, investigated, and approved by the Committee on Listing. When an issue is presented to the Exchange for listing, it is referred to the Committee on Listing. The latter investigates to determine whether or not the security on which the issue is based is adequate. For this purpose, it has the real property appraised by appraisers from the Real Estate Board of New York in New York City, or similar organizations in other cities, whose names are guarantees of ability and good faith. In addition, the financial condition, financial history, and personnel of the person or corporation offering the issue for listing are required and examined. Upon these data, if the Committee on Listing is satisfied with the soundness of the security on which the issue is based, it will list the issue and allow it to be bought and sold on the Exchange. The theory of the application is based on the idea that it shall contain information respecting the corporation desiring to list its securities. An investor may upon investigation form his own idea of value.

The Exchange tries to stand between the listing owners and the public, as well as to safeguard the interests of the dealer and the investor; but the

Exchange assumes no responsibility as to the legality of the issue of securities or as to the statement of facts contained in the application, or because of the fact that it has allowed a security to be listed. However, it endeavors to make a thorough examination of the statements submitted in order to protect the public in such securities as may be listed. In conclusion, it is expected that all information received by the Committee on Listing will be available to the public, and that the Committee will not receive any statements with respect to a corporation that cannot be printed in a listing application or be accessible to the members of the Exchange.

Under the final plans for the Exchange, a clearing house will be set up for the purpose of acting as the common agent of the members in receiving and delivering the securities handled. The hours for the transaction of business on the floor will be from 10 a.m. to 3 p.m., excepting on half holidays, when the Exchange will close at noon. A fine of twenty-five dollars may be imposed on members who make offers or bids before or after these hours. Loans of money or securities may, however, be made after the official closing of the Exchange.

#### COMMISSION RATES

The schedule of commissions for the execution of orders on the Exchange is as follows:

(a) *On business for parties not members of the Exchange, including joint account transactions in which a non-member is interested; and on transactions for partners or officers of corporations, of which a member is an officer, not members of the Exchange:*

On Stocks		
Price		Rate per share
Selling under 50c		As mutually agreed
Selling at 50c and above, but under \$1		Not less than 3c
Selling at \$1 and above, but under 10		Not less than 7½c
Selling at 10 and above, but under 25		Not less than 12½c
Selling at 25 and above, but under 50		Not less than 15c

<i>Price</i>	<i>Rate per share</i>
Selling at 50 and above, but under 75	Not less than 17½c
Selling at 75 and above, but under 100	Not less than 20c
Selling at 100 and above, but under 200	Not less than 25c
Selling at 200 and above, but under 250	Not less than 30c

For each additional \$50 in price, 5c additional, provided, however, that on every transaction which involves an amount of \$15 or more, the minimum commission shall not be less than \$1.00.

#### On Bonds

Not less than \$2.00 per \$1,000 par value.

#### On Subscription Rights

<i>Price</i>	<i>Rate per right</i>
Selling under 50c	As mutually agreed
Selling at 50c and above, but under \$1	Not less than 3c
Selling at \$1 and above, but under 5	Not less than 5c
Selling at 5 and above, but under 10	Not less than 7½c
Selling at 10 and above	Not less than 15c

(b) *On business for members of the Exchange when a principal is not given up:*

#### On Stocks

<i>Price</i>	<i>Rate per share</i>
Selling under 50c	As mutually agreed
Selling at 50c and above, but under \$1	Not less than ¾c
Selling at \$1 and above, but under 10	Not less than 1¾c
Selling at 10 and above, but under 125	Not less than 3¾c
Selling at 125 and above	Not less than 5c

#### On Bonds

Not less than 80c per \$1,000 par value.

#### On Subscription Rights

<i>Price</i>	<i>Rate per right</i>
Selling at 50c	As mutually agreed
Selling at 50c and above, but under \$1	Not less than ¾c
Selling at \$1 and above, but under 5	Not less than 1¾c
Selling at 5 and above, but under 10	Not less than 1¾c
Selling at 10 and above	Not less than 3¾c

(c) *On business for members of the Exchange when a principal is given up:*

#### On Stocks

<i>Price</i>	<i>Rate per share</i>
Selling at 50c	As mutually agreed
Selling at 50c and above, but under \$1	Not less than ½c
Selling at \$1 and above, but under 10	Not less than 1¼c
Selling at 10 and above, but under 125	Not less than 2½c
Selling at 125 and above	Not less than 3c

Except that when the amount dealt in is less than 100 shares of stock odd lots of the commission shall not be less than 1c per share on stocks selling below \$10 per share and 2c per share on stocks selling at \$10 per share and over.

#### On Bonds

Not less than 40c per \$1,000 par value.



## On Subscription Rights

Price	Rate per right
Selling at 50c.....	As mutually agreed
Selling at 50c and above, but under \$1.....	Not less than $\frac{1}{2}c$
Selling at \$1 and above, but under 5.....	Not less than $\frac{3}{4}c$
Selling at 5 and above, but under 10.....	Not less than $1\frac{1}{4}c$
Selling at 10 and above .....	Not less than $2\frac{1}{2}c$

(d) On bonds or notes having five years or less to run:

Such rates to members or non-members as may be mutually agreed upon; provided, however, that the Committee on Commissions may determine special rates on any of said securities, reporting the same to the Board of Governors.<sup>2</sup>

The unit of trading in bonds will be one thousand dollars in par value thereof. In the case of stocks selling at fifty cents a share and over, the unit of trading will be one hundred shares. In the case of stocks selling below fifty cents, the unit will be one thousand shares.

## GOVERNMENT OF THE EXCHANGE

The government of the Exchange is vested in a Board of Governors composed of twenty-one members. An Executive Committee of the Board of Governors consists of the President, the Chairman of the Board, the Vice-President, the Secretary, and the Treasurer, of the Exchange, and two other members of the Board of Governors.

The Standing Committees are:

- (1) A Finance Committee, to consist of five members and the Treasurer.
- (2) A Committee on Commissions, to consist of five members.
- (3) A Committee on Membership, to consist of nine members.
- (4) A Committee on Listing, to consist of seven members.
- (5) A Committee on Securities, to consist of five members.
- (6) A Committee on Business Conduct, to consist of five members.

- (7) An Arbitration Committee, to consist of five members.
- (8) A Law Committee, to consist of five members.
- (9) A Committee on Constitution, to consist of five members.
- (10) A Committee on Arrangements, to consist of seven members.
- (11) A Committee on Quotations, to consist of five members.
- (12) A Committee on Clearing House, to consist of five members.

Special Committees may be appointed from time to time, as occasion requires.

An eminent authority has computed our annual expenditures for real estate as follows:

Real estate interests operating in their respective fields have built our cities and our suburbs, and during the last five years have added, it is estimated, approximately \$10,000,000,000 of new value each year in new buildings of all kinds—35 per cent, or \$3,500,000,000, for residential construction; 20 per cent, or \$2,000,000,000, for public works and public utilities; 20 per cent, or \$2,000,000,000, for industrial buildings; 15 per cent, or \$1,500,000,000, for commercial buildings; 6 per cent, or \$600,000,000, for educational buildings; and 4 per cent, or \$400,000,000, for hospitals and institutions. Add to this at least \$2,500,000,000 for ground value, and the annual capital requirements to finance the real estate opera-

<sup>2</sup> Constitution of the Real Estate Board of New York Exchange, Inc., pp. 52-54. The rate on bonds has lately been increased to \$2.50, \$1.25, and 75c, respectively, per \$1,000 par value.



tions per year in the United States have reached the large total of \$12,500,000,000. Of this amount perhaps \$500,000,000 should be deducted as being represented by the exchanges of real estate, leaving \$12,000,000,000 to be financed yearly by cash or mortgages or contract. . . .

With so large amount of operations put out annually in the form of credit primarily in bonds, I am in a position, in fact know, that it would help their salability, likewise their use as collateral at banks, if those that met the test could be listed upon some exchange and an active trading market established.<sup>1</sup>

It must be evident that the capital requirements for such operations must be met more and more by the sale of securities to the public. One of the new sources of supply for money for real estate operations will be what may be called seasonal money.

Many merchants require capital during their busy seasons, but allow it to lie idle in the banks between such seasons. If they are satisfied that in real estate securities there is a larger rate of interest and that they can resell them readily, such seasonal money will be brought into the real estate market where it has never been before.

It might be well to discuss the value of membership in the Exchange to real estate men outside of New York City. As the Exchange is national in scope, it follows that securities of real estate in Maine, California, Oregon,

<sup>1</sup> From a recent address by Mr. George B. Caldwell, Vice-President of the United States Bond and Mortgage Corporation.

and other localities, will be listed as well as those in New York City. The prestige of belonging to the Exchange in New York will be of value to the dealer operating outside of New York City. Also, he will represent companies in his locality whose securities are listed on the Exchange. He will be entitled to buy and to sell securities on the Exchange for investors in his neighborhood, and to participate in the commissions.

The Exchange is now in actual operation. While its early weeks have been very gratifying to its sponsors, it is having the experiences which it anticipated in its announcement published before it began operations. Such experiences are welcome, and will result in the increasing usefulness of our organization to the public.

In organizing the Exchange, its members have put forth on an uncharted sea, but it is the result of well-nigh irresistible forces whose moving principles are well known. Confident of its success, they realize that only through the experience gained from actual operation will the maximum results of their ambition be attained. The day of collective ownership has come for real estate as well as for other industries. In the competition for the public's dollar, real estate cannot afford to do less for the public than other industries do. By the organization of exchanges on which their securities are sold, they give the public liquid securities. Real estate is preparing to do the same.

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# English Professional Societies in Real Estate

By H. MORTON BODFISH

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THE real estate business as an organized occupation is somewhat more specialized and is considerably older in England than in the United States. In general, the business has matured in that country. It is characterized by less frequent alienation of land; more term contracts, such as leases; less subdividing, or estate development, as it is called there; and more attention to the management aspects of the business. Finally, real estate operations in England are considerably more complex than in this country because of numerous legislative requirements, such as rent acts, peculiar rating and valuation statutes, town planning, and housing regulations.

## THE REAL ESTATE BUSINESS IN ENGLAND

Thus, the maturity of the real estate business in England furnishes the background for English professional societies. These societies are of interest in so far as they may indicate possible trends in this country, as our real estate business shifts from the pioneer development stage to an operation or a management basis.

The English societies will be described as they are now organized and functioning, with particular attention to the examination system, which is the heart of the English professional idea. The general scope and type of the business in England will be indicated as the individual societies are described. The officers and membership of English societies consider their business distinctly a profession and feel that through the societies they have at-

tained a professional status. These societies do not include all those engaged in the business, but like trade organizations in this country they do include the eminent practitioners and most of the prominent individuals in the business.

There are four important so-called professional societies operating in the British Isles. Three of them are mature and are generally regarded as the leaders. Their standards and actions dominate the business. The oldest and the first to acquire a "professional" basis is the Surveyors' Institution. The others are: the Auctioneers' and Estate Agents' Institute of the United Kingdom; the Land Agents' Society; and the Incorporated Society of Auctioneers and Landed Property Agents. For brevity, these will be spoken of as "the Surveyors' Institution," "the Institute," "the Land Agents' Society," and "the Incorporated Society." These abbreviations are in accordance with general parlance in England. It should be noted here that many individuals hold membership in two, and in rare cases three, of the so-called professional bodies. As our English friends continually speak of the business as "the profession," the following descriptions will use the word as they use it, although there are some needed qualifications which will be pointed out later.

## THE SURVEYORS' INSTITUTION

The term "surveyor" as used by the Surveyors' Institution<sup>1</sup> has a breadth

<sup>1</sup> The society occupies an extensive and inviting building at 12 Great George Street, West-

not customary in the United States. The bounds of the profession are suggested in the following excerpt from its charter:

[Surveying is] the art of determining the value of all descriptions of landed, mineral, and house property, and of the various interests therein; the practice of managing and developing estates; and the science of admeasuring and delineating the physical features of the earth and of measuring and estimating artificers' work.

The older and the more popularly known branch of the work, the measuring of tracts of land, is practically confined to the measuring of parcels for building development.

The activities of the members of the Surveyors' Institution can be classified in four groups. The intending surveyor chooses the one which he prefers to follow, and his training depends to a considerable extent upon his decision. Naturally, these subdivisions reflect the specialization which takes place within the organization itself.

*Land Agency.* The management of country estates, which requires a knowledge of agriculture, forestry, land drainage, tenant-right valuations, construction and upkeep of farm buildings, law and procedure with regard to imperial and local taxation, the Agricultural Holdings Acts, and other statutes dealing with agricultural land.

*Valuation of Urban Agency.* The management and the development of urban estates, town planning, road-making, sale and letting of house and commercial property, dilapidations, supervision of repairs, sanitation, valuations, Acts of Parliament dealing with buildings, and so forth, in towns.

*Building and Quantity Surveying.*

minster, London. I have given the address of the principal offices of the several societies, although I hope that our very courteous English friends will not be imposed upon by too extended inquiries.

For this division is needed a knowledge of building construction and the preparation of builders' quantities, ability to advise on alteration of buildings, to supervise building and sanitary works, to advise on party-walls, air and light, and so on, or to settle building contracts.

*Mining Surveying.* This division is the most clearly specialized of the four. It involves advanced technical knowledge of surveying and training in mining law, geology, and so forth.

In actual practice members of the Surveyors' Institution often combine Land Agency with Urban Agency or Urban Agency with Building and Quantity work.

#### HISTORY OF THE SURVEYORS' INSTITUTION

The Surveyors' Institution is the oldest of the professional societies. Its standards are possibly the most exacting and many of its policies are followed in substance by the other societies. Its history is pertinent, therefore, as illustrative of the story of the evolution of the English professional society.

The business of the land, its management, development, and treatment of the interests therein, emerged about sixty-five years ago as a distinctly specialized undertaking or business. The introduction of railways, land enclosures, and great industrial development of urban areas had created the opportunity for specialized services.

The initial organization of men dealing distinctly with problems of the land other than agricultural procedure seems to have occurred in 1792.<sup>2</sup> A small group of architects and surveyors, mainly from the great city companies in London, comprised its fifteen members. This organization still flourishes

<sup>2</sup> The architects and engineers in England established professional societies in 1818 and 1834, respectively.

and includes among its members leading architects and building surveyors. It bears its original name—the Surveyors' Club.

In 1834, the Surveyors' Club was followed by the Land Surveyors' Club, which also still exists. In addition to general practice, its membership has been largely concerned with the management of large country estates. A similar body, called the Surveyors' Association, was founded in 1864.

No one of the above organizations was a distinctly professional society, nor was its membership open to everyone in the country who was properly qualified.

In 1868, the Surveyors' Institution was founded. The time was opportune because of demands on surveyors during the agricultural and the other prosperous developments of the mid-Victorian age. Population was increasing rapidly and the committee rooms of both houses of Parliament were full to overflowing with private bills for town improvements, railway, dock, and harbor extensions, and the enlargement of borough areas—matters which brought surveyors from all parts to London either in support or in opposition. Professional friendships were formed out of these contacts, and these provided the foundation upon which the new society was built.

A Royal Charter was granted to the society in 1881, and in the same year the examination system was instituted. At that time, qualification by examination was rather unique. By statutory regulation, the professions of law and medicine could be entered only through examination. Apparently the practical man favored practical qualification only, fearing that the examination system might separate practice from theory. As the tests apply largely to theory, the provisions regarding actual experience are rigidly enforced.

In 1881, only fifteen candidates presented themselves for examination. A transition period ended in 1891 when no admissions other than by examination were permitted. It seems that the grant of the Royal Charter in 1881 was indirectly conditioned on the understanding that as soon as practical all members entering the Institution should be required to attain professional knowledge, proof of which could be given only in the examination hall.

Since the modest start in 1881, over 20,000 candidates have presented themselves for the professional examinations; of this number, about 12,500 have been successful. To the foreign observer, it is difficult to estimate the effect on the profession of the concentration and the study represented by these efforts. Even the unsuccessful must have benefited by their studies, and the general standard of knowledge and attainment must have been raised to the benefit of the public.

In 1928, fourteen hundred candidates submitted themselves to eighty examiners, and only a little over fifty per cent were passed. The Institution feels that the proper qualification of members has an important bearing on the high professional standards which it demands of the "Chartered Surveyor." To the employing public, the designation is a guarantee of integrity as well as of efficiency.

One additional development of the examination system may be mentioned here. Triennially, and sometimes more frequently, examinations are held for special diplomas. These examinations supposedly afford a severe test of the candidate's knowledge of theory and practice in a particular subject, and the possession of a diploma indicates unusual proficiency in that subject. Special diplomas may be obtained in Land Surveying, Forestry, Sanitary Science, Rating (tax valua-

tion work), and Valuation. The administrative officers of the Institution consider that the study and the application necessary to the acquiring of a diploma are of as great importance to the member as the diploma itself.

#### MEMBERSHIP IN THE SURVEYORS' INSTITUTION

The total membership of the Institution is over seven thousand, and consists of four classes: Honorary Members, Fellows, Professional Associates, and Associates. Probationers and students are considered as attached to, rather than as members of, the Institution.

*Fellows.* Members of the class are over thirty years of age and have passed the final examination following studentship, or the direct fellowship examination in some cases. Prior to election as a Fellow, the candidate must have held for five years "a position of complete responsibility equivalent to that of a principal in an established business."

*Professional Associates.* This class of members must be twenty-one years of age and must have passed preliminary, intermediate, and final examinations. Holders of university degrees whose studies have pertained to surveying are admitted to this class upon a single final examination. Further, they must be engaged in professional work as surveyors, a condition which applies also to Fellows.

*Associates.* Persons over twenty-one years of age, not surveyors by profession, but whose pursuits are such as to qualify them to coöperate with surveyors in the advancement of professional knowledge, are placed in this group.

*Students.* This group has passed the preliminary examination, or one of the exemption school examinations, and must be engaged as pupils or assistants in the office of a member of the Institu-

tion or must be studying, with a view to entrance into the profession, at such places of professional instruction as are approved by the Institution.

*Probationers.* Studentship expires at the end of the twenty-first year. Such persons, together with those having passed the intermediate examinations, are probationers. They cannot remain in this class in excess of five years, or three years after passing their intermediate examination.

Honorary memberships need no explanation as they are for persons who, either by reason of their position or experience, or their eminence in science, can render assistance in promoting the objects of the Institution. Election to membership is by ballot of all the corporate members. All Fellows, Professional Associates, and Associates are required to attend a meeting within the year for formal introduction and to sign the register. They are also required within the same period to contribute an original paper on a subject connected with the profession, or to make a donation to the library fund.

Under some conditions the Council may, by a three-fourths vote, dispense with the examination in favor of a candidate of exceptional standing and experience as a surveyor, holders of official appointments as surveyors, and so forth. The granting of such memberships is quite infrequent.

The Council has the right to expel from the Institution any Fellow, Professional Associate, or Associate who has been convicted of any felony, larceny, embezzlement, or misdemeanor, or who violates any of the rules of the Institution. To be adjudged bankrupt or to make a composition to creditors is cause for expulsion. Of course, any violation of the fundamental rules of the Institution is similarly punishable. The fundamental rules deal with professional conduct, particu-



larly in regard to charges for services and discounts or allowances in connection with professional business.

It is significant to note that any ten members can request an inquiry into the conduct of a member, and proceedings are prescribed for the inquiry and the discipline.

Membership in the Surveyors' Institution is evidenced by a diploma of membership, which remains the property of the Institution and is recalled in the event of cessation of membership for any cause.

Entrance fees and annual subscriptions are charged. Annual subscriptions may be omitted to Fellows or Professional Associates who, after a long professional career, are unable to continue to practice or to continue to remit annual subscriptions.

#### EXAMINATIONS

The Institution definitely encourages university work in preparation for the profession. It grants annually two very substantial fellowships to candidates selected by competitive examination. Special degree-holders' examinations are held, and a candidate can thus become a Professional Associate without the period of several years necessary to non-degree holders. Candidates who have passed the B.Sc. (estate management) examinations of the Universities of London and Cambridge are exempt from all professional examinations. It should be noted that regardless of educational qualifications the student must acquire practical experience in the office of a qualified surveyor. Two years is the minimum, and it is generally "articled pupilage." In other words, premiums are paid for this training, some running as high as three hundred guineas, although small salaries are frequently paid by the principal in the second and third years.

From his investigation, the writer

gathered that the educational or the training requirements of the Surveyors' Institution were the most exacting of the several societies. The Institution is open to women, although as yet there is only a small number of qualified women surveyors. They are working primarily at personal valuations and house property management.

Fellows and Professional Associates use the initials F. S. I. and P. A. S. I., respectively, after their names, and may style themselves "chartered surveyors."<sup>3</sup>

The Institution considers that the possession of a recognized qualification, membership in a well-trained and professional body, can but lend authority to the surveyor's views and increase his opportunities. The charter and by-laws provide for members in the colonies, and they are also privileged to use the initials F. S. I.

In election to the Institution for the first time, or in the transfer from one class to another, the name of the candidate must be sponsored by six Fellows, or four Fellows and two Professional Associates. Four members of the Council, including the president, may also suffice. Always such sponsorship involves personal acquaintanceship and certification of the candidate's qualifications.

#### ORGANIZATION AND WORK

The affairs of the Institution are under the management of a Council, elected annually by ballot of all corporate members.<sup>4</sup> The Council is ad-

<sup>3</sup> In general, the work of the surveyor involves the sale, management, development, and valuation of property of every description, rural and urban, land, buildings, and minerals, negotiation and settlement of disputes over boundaries, light and air claims, landlord and tenant rights, and so forth.

<sup>4</sup> Obviously I have drawn heavily upon the printed materials of the societies, in several cases including the complete substance of their statements where personal investigation has confirmed their correctness.



vised by the county branches and a number of standing and special committees appointed to consider the various matters referred to it. Its work includes examination of Parliamentary bills affecting valuation, management, the development of landed property, and various interests therein; preparation of memoranda, and submission of evidence for the use of government departments, royal commissions, and departmental and other committees in connection with matters upon which the collective knowledge of the profession would prove of assistance; and the rendering of advice to imperial or local authorities when called upon to do so by statute or otherwise.

In addition to its activities in the advancement of the public interest, the Council has continually in view the elevation, ethical as well as intellectual, of the profession which it represents. It has afforded practical help to places of professional instruction, has founded scholarships, and has furthered technical education generally. It has also felt it to be its duty strictly to administer the rules of conduct which all members are required by the by-laws to observe. The Council has also, through its Professional Practice Committee, used its influence in inspiring a high ideal of professional honor among members.

The organization of the Institution includes a system of metropolitan and county branches,<sup>5</sup> the object of which is to enable the Council to give the considered views of the profession from all parts of the country on matters of public interest; to afford opportunity

<sup>5</sup> There are twenty-four county branches scattered over England, Scotland, Ireland, and Wales. In many respects these branches resemble the state associations found in our own real estate organization, although the relationship between these county branches and the parent organization is much closer and interwoven.

for members generally to take an active part in the affairs of the Institution; and to assist the Council in ascertaining their local wants and wishes. The system includes machinery for local representation on, and succession to, the Council and the standing committees and provides, in addition, opportunities for the discussion of professional questions and social intercourse at centers easily accessible to members in country districts. The affairs of each metropolitan and county branch are managed by an executive committee, which is elected annually.

#### THE JUNIOR MEETINGS

The junior meetings are established for the benefit of the younger members of the Institution, to bring them into closer touch with the Council, and by fostering among them an interest in professional affairs to prepare them for higher office in the future. The work of the junior meetings is administered by a representative central executive committee, which is responsible to the Council for their affairs as a whole. Junior organizations in the county branches have been established where justified by numbers.

The fine home of the Institution, adjacent to the Parliament buildings, contains, in addition to offices, directors' rooms, conference rooms, and assembly hall, a most extensive library and collections which are germane to the work of the land agent. The loan library is independent of the general reference collection, and contains some sixteen hundred volumes, including all principal professional textbooks, which may be borrowed by members according to the prescribed rules.

The fund provides for the needs of members and their dependents who, by reason of age, sickness, or misfortune, are unable to support themselves. It

is maintained entirely by voluntary contributions.

#### SCHOLARSHIPS

Two scholarships, of an annual value of £100 each, if held at Oxford or Cambridge, or at any other recognized university or affiliated college, and tenable for three years, are offered annually by the Institution. After completing his university course, the holder of a scholarship must agree to "enter into Articles," or become otherwise professionally engaged in the office of a chartered surveyor practicing in Great Britain and Ireland or, in suitable cases, in the dominions and colonies, and, in due course, to present himself for the examinations of the Institution, with a view to attaining membership. A portion of the scholarship emoluments is retained by the Council until the scholar has entered the surveying profession, when the accrued balance is turned over to him.

A number of valuable prizes are offered in connection with the Institution's examinations.

There are sixty-one volumes of transactions, presenting the papers read at general meetings since 1868; also, twenty-six volumes of professional notes, and eight volumes of the journal. In 1921, the professional notes, which were formerly issued four times a year, were replaced by the present journal, which is published monthly. In these publications one can find materials on practically any question of theory or practice connected with the profession. The journal is a very dignified publication, edited much in the same style as our professional economic publications. It contains articles on legal, operation, and professional matters, as well as organization data and notices of examinations, reviews, statistics, and English and Scottish law cases significant to the

profession. Parliamentary bills are also included. Incidental publications include complete catalogues of the library. The catalogue of the loan library is in its seventeenth edition.

#### THE AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE

This society<sup>6</sup> is next in importance to the Surveyors' Institution. Its membership is almost as large, numbering 6,133 at the end of 1928. The membership falls into the following classes: 23 Honorary Members and Fellows; 3,591 Fellows; 1,176 Associates; 927 Licentiates; and 416 Students.

Examination for membership in this society was made compulsory in 1921. Prior to that time, membership was through studentship and examination, or through extended practice. The beginning of the Institute proper was in 1886. The Articles of Association indicate the following objects:

(a) To provide a central organization for auctioneers, estate agents and valuers, both men and women, and generally to do all such things as from time to time may be necessary to elevate the status and procure the advancement of the interests of the profession.

(b) To provide for the better definition and protection of the profession by a system of examination and the issue of certificates of the results of examinations. Provided that the Institute shall not grant or profess to grant titles or diplomas.

(c) To provide opportunities for intercourse among the members and to give facilities for the reading of papers, the delivery of lectures, and for the acquisition and dissemination by other means of useful information connected with the profession.

<sup>6</sup> The society and the executive staff are housed in their own building at 29 Lincoln's Inn Fields, London, W. C. 2. The Institute building received a medallion from the Royal Institute of British Architects denoting it as the best building erected in 1924 within four miles of Charing Cross (this means central or business London).

(d) To watch over, promote, and protect the mutual interests of its members.

(e) To establish, undertake, superintend, or administer any charitable or benevolent fund from whence may be made donations or advances.

The Institute<sup>7</sup> includes three general groups: auctioneers, estate agents, and valuers. Probably eighty-five per cent of the members conduct a general business which encompasses the three activities. Sale by auction of real estate, motor cars, furniture, and so forth, is much more extensive in England than in this country. This is particularly true of real estate. Auctions are conducted by reputable firms after widespread advertisement, and the assumption is that the maximum demand price is obtained in this manner. It is distinctly not a liquidation or a forced sale process in most cases.<sup>8</sup> The estate agent's function involves management, direct sales (spoken of as sale "by private treaty"), and leasing. The valuing involves appraising all classes of property for individual contract, taxation, or rating purposes. The Institute excludes from its membership those engaged in any activities regarded as incompatible with the work of the profession.

The seat of management of the Institute is in London, where the staff and the library are housed in a beautiful building designed for the work and owned by the Institute. The elaborate library, conference rooms, directors' rooms, assembly room, and general

<sup>7</sup> The original name was "the Auctioneers' Institute of the United Kingdom," and was changed March 6, 1912. Prior to 1912, the present Institute consisted of two bodies, namely, the Auctioneer's Institute, and the Estate Agents' Institute. The Auctioneers' Institute is really the parent body of the two and was founded in 1886.

<sup>8</sup> There is a legal license requirement for auctioneers which does not apply to other phases of the profession.

appointments are especially impressive to the foreign visitor.

#### OFFICERS OF THE INSTITUTE

The officers include a president, vice-president, secretary, auditors, examiners, assistant examiners, and a Council. The Council, which is the important governing body, consists of thirty elected members and the past presidents. The president and the vice-president are selected from the Council and by the Council. Provisions are made for forfeiture of the Council seat for non-attendance of meetings, the rule even applying to *ex officio* past presidents.<sup>9</sup> The powers and the responsibilities of the Council are complete and subject only to the Institute in general meeting.

Like the Surveyors' Institution, the Institute has a number of branches. Membership in the Institute carries a simultaneous membership in the branches which deal primarily with matters of local interest. Several branches have local headquarters which operate their own auction marts, access to these facilities being restricted to members.

In connection with the general work of the Institute, it may be noted that the branches report periodically. Half-yearly conferences are held between the Council and the branch chairman and secretaries. An annual dinner, provincial meetings, branch meetings, and sessional meetings occupy a prominent place in the organization's program.

The Institute encourages organizations composed of junior members. These members are largely individuals

<sup>9</sup> The British tendency to insignia is noted in the annual report of the Council which states that Mr. Driver "had the pleasure of being the first president to wear the handsome new badge of office incorporating the armorial bearing of the Institute." Later, "nearly every branch has now become possessed of a chairman's badge, either by gift or by purchase."

who are studying for the professional examination. Junior members must be under thirty-three years of age. There are eleven such organizations, the largest being in London. Papers pertinent to the business are read at their meetings, and interest in the preparation of papers by juniors is fostered by prizes, and so forth. The London junior organization is over twenty-five years old.

#### CLASSES OF MEMBERSHIP

The members of the Institute consist of six classes, namely, Fellows, Associates, Licentiates, Students, Honorary Members, and Honorary Fellows. The qualifications for the active classes are as follows:

*Fellows.* Members are eligible for election as Fellows by the Council who are twenty-five years old and who have creditably passed the professional examinations. Further, a practical knowledge of the profession is required in the form of five years' service in some responsible position in the profession. The last-mentioned character of position is important, although men who were Associates prior to 1922, who have belonged in the classification for ten years and who are over forty years old, may be elected.

*Associates.* These members have qualified by passing the professional or final examinations, are over twenty-one years of age, and have served with a Fellow as an articulated clerk for three years or as an assistant for five years. Individuals passing the examinations, but having three years' practice as a principal, are admitted to this class.

*Licentiates.* This group is elected from those who have passed the intermediate examinations and who are also occupying a position in the profession.

*Students.* Only persons are elected as students who have passed the preliminary examination or whose prelimi-

nary examination has been waived because of previous educational experience. In order to qualify as members of the profession, students must be sixteen years old and must be either studying or working.

Under the foregoing regulations, the Council may admit, without qualification, persons of unusual professional qualifications or attainments. Very few persons have been so admitted.<sup>10</sup>

Honorary members are selected from eminent persons who are interested in the profession, but who are usually not practicing it in any way. Members who have retired from business may retain their membership on payment of one-half the annual subscription or dues. It is interesting to note that on election Fellows or Associates either deliver to the Council an original paper or make a donation to the library fund of not less than one guinea.<sup>11</sup>

Typical provisions for resignation, expulsion, and so forth, appear in the Articles of Association, but it is significant that

a member who, on reaching the age of 25 years is still a student, or a member who, on reaching the age of 30 years, is still a licentiate, shall *ipso facto* cease to be a member.<sup>12</sup>

#### THE WORK OF THE INSTITUTE

A fair picture of the interests and the work of the Institute is given by the titles of the important active and standing committees. They are as follows: Agriculture; Benevolent Fund; Constitution; Discipline; Elections; Examinations; Finance; General Purposes; House; Parliamentary; Practice;

<sup>10</sup> Seven were so admitted from 1921 to 1929.

<sup>11</sup> In 1929, the forty-fourth year of the Institute, approximately 1,100 applications were presented for the annual examinations. Nearly 500 represented new aspirants, the balance being members seeking to qualify for a higher grade of membership.

<sup>12</sup> Clause 94A.

Publications and Library; Publicity; Registration; and Scale of Charges.

The last committee to be formed is the Practice Committee which is

to consider in all aspects the relations between agents, between agents and their clients, and between agents and the public.

This is the only tendency in the institutions to develop standards of practice, which have been so important in the development of American trade associations. It is a new development in the Institute's work, and the leadership is encouraging the branches to give assistance to those contemplating the formulation of such standards.

The conduct of members is not discussed in a detailed *formulation*. No member is permitted to engage in any occupation which is inconsistent with the practice of the profession. He shall not conduct himself in such a manner as to injure his professional status and shall not join with a commercial business to carry on professional activities as an adjunct to the commercial business. Participation by others in professional charges is not permitted. A membership is terminated when bankruptcy proceedings are initiated, or when a member makes any assignments or proposes to take advantage of any statutory provisions for arrangements with creditors. The annual report of the secretary indicates several expulsions for unbecoming conduct.

The distinguishing letters of Fellows are F. A. I., and of Associates, A. A. I. Of course, the use of letters is confined to members of present good standing. The distinguishing letters are personal, and are not intended for use after the title of a firm. They can only be used with a firm name when all the members are Fellows or Associates. While it is seldom that the Council has to take

steps in regard to the improper use of the letters indicating membership in the Institute, three cases occurred in 1928. In one case the matter was settled by an apology in the press, but in the other cases it became necessary to protect the interests of members by proceedings in the Chancery Court. In both these cases the claim of the Institute to a perpetual injunction was upheld.

#### EXAMINATIONS

All of the British societies consider that the essence of professionalization is found in the requirements of competency. These are conditions precedent to affiliation, and such attainments can best be tested by examinations. In the Institute there are three examinations: preliminary, intermediate, and professional. As in the Surveyors' Institution, certain educational experience permits exemption from the preliminary examinations. Medals and prizes are awarded for success in the examinations. In 1928, 109 candidates out of 160 passed the preliminaries. In the professional examinations, in the same year, there were 784 candidates, of whom 492, or 62.7 per cent, were successful.

The aim of the preliminary examination has been to admit only those who have potential professional qualifications. The officers of the Institute indicate that the standards of the preliminary examination particularly are being continually raised. In 1930, for example, a foreign language is no longer required, but a candidate must take five compulsory subjects and one additional elective. The compulsory subjects are English, Arithmetic, Algebra, Geometry, and Modern English History. The elective subject may be chosen from Latin, French, German, Modern Geography, or General Knowledge.



Special certificate examinations are held in such subjects as Taxation and Rating, Tenant-Right, and other Agricultural Valuation, and even Antique Furniture. These examinations are open only to Fellows of the Institute, and ten years of practical experience in a particular subject is a prerequisite to examination in the subject. Twenty-two candidates were examined in 1928, of whom seven were found qualified for the certificate.

A benevolent fund is maintained and administered to assist members or former members who cannot provide adequately for themselves or for their wives and daughters. The significance of this work is indicated by its 1928 balance sheet which showed investments and cash of £33,645. The fund has considerable annual income from members' subscriptions. £2,841 19s 3d was expended in assisting specific cases during the above year.

The library of the Institute is very complete. Books are even loaned to members by post.

The principal Institute publication is the *Journal of the Auctioneers' and Estate Agents' Institute of the United Kingdom*, which is issued monthly. It includes papers, organization notices, bills before Parliament, and the like. The Institute also issues supplements to the Journal, special memoranda, and a yearbook.

Apparently there is considerable unemployment in the profession in England, and the examination system produces many proficient pupils whom the society assists in a nominal way to find positions. The Institute does this through an appointment bureau. This bureau is open only to members who are disengaged, or who have received or given definite notice to terminate their employment. The applications, however, greatly exceed the number of posts available.

#### AUCTION MARTS

The largest auction mart in London is conducted under the auspices of the Institute. Several of the Institute branches also have marts which can be used by members only on payment of proper room charges. Sales rooms vary in size from those seating twenty to twenty-five persons to a very large room in the London Mart which seats in excess of two hundred and fifty persons. The Mart has certain rules governing the use of its facilities and providing for display of announcement posters. Sometimes the rooms are let for committee meetings, arbitrations, and like purposes.

It should be remembered that although the above quarters are for the exclusive use of Institute members many firms have their own private auction rooms.

A service which is available only to members of the Institute and the Surveyors' Institution deals particularly with values as derived from actual sales. The records of the Estate Exchange extend over a period of sixty-eight years and are open to inspection by all subscribers. A yearbook, containing sometimes as many as seven hundred pages, records approximately twenty thousand transactions throughout the country.

#### LAND AGENTS' SOCIETY

The land agency subdivision in the Surveyors' Institution has already been mentioned. However, a Land Agents' Society,<sup>13</sup> which has recently received a Royal Charter, exists solely for the land agency profession. The membership numbers about 1,050. The work of the members consists primarily of the management of landed

<sup>13</sup> The registered offices of this Society are at 12 Little College Street, Westminster, S. W. 1, London.



estates, agricultural, moorland, woodland, and occasional urban land. The rural land owner seldom appoints as his agent anyone who is not a qualified member, by examination, of one of the professional bodies. Obviously, the work varies from maintenance to valuation and leasing, in addition to everything which management implies.

The membership is classified into Fellows, Qualified Associates, and Candidates. Entrance is possible only through examination, and the subject matter and experience requirements are similar to those of the two societies previously described. Only those who have passed the advanced examinations and who are managing agricultural estates, or an estate of not less than two thousand acres, are eligible for election to Fellowship, which is the highest grade of membership. Many of the members are Associates and Qualified Associates, the latter having fulfilled practical experience requirements in addition to passing the examinations. It should be noted that all the societies prepare scales of charges which the members are expected to observe. Violation of these scales is one of the much-emphasized departures from professional etiquette.

It should also be noted that the three previously discussed societies operate in a highly coöperative manner and often coöperate in dealing with matters of legislation, registration, and the like.

#### PROFESSIONAL EDUCATION IN THE UNIVERSITIES

The societies exempt from all examinations, but not from the practical experience qualifications, holders of degrees in estate management. At the University of Cambridge the instruction particularizes on rural estate management, and the instruction is given

in the department of agriculture.<sup>14</sup> The teaching of estate management is connected with the actual workings of the university farm and with the management of property owned by the university and the colleges. For those with proper entrance prerequisites the degree course is three years. The curriculum is completely prescribed.

The university degree for those interested in urban matters is given by the University of London. Candidates enroll as external students and are advised as to the proper courses and studies which they should pursue in relating their present or proposed professional occupation to the appropriate intellectual preparation. Candidates must pass a matriculation examination and an intermediate and final examination. The following subjects indicate the character of knowledge required.

Intermediate: Land Surveying, including its Mathematics and Draughtsmanship; Economics; Agriculture or Town Planning; Accounting; Business Organization; Elementary English Land Law.

Final: Theory and Principles of the Valuation of Land and Buildings; History and Principles of Taxation and Tithe; English Law Relating to Land; Construction of Buildings; Town Planning and Estate Development; Sanitation; Municipal and Local Government Law.

#### COLLEGE OF ESTATE MANAGEMENT

Certain individuals aspire to the professions who could not contemplate a university course in preparation. Several firms had been in the business of coaching students for the examinations either through correspondence or through direct instruction. The Col-

<sup>14</sup> Some instruction is given at Oxford which is accepted in lieu of a professional examination, particularly in surveying, architecture, and the like.

lege of Estate Management<sup>15</sup> was founded in 1919, taking over the equipment, good will, and personnel of the most widely known coaching firm. The founding of the college was sponsored by the Surveyors' Institution and the Auctioneers' Institute and it is an accredited training institution for their examinations, for the Land Agents' Society, and for the examination for the B.Sc. (in estate management) of the University of London. The college also gives courses in preparation for the examinations of the Royal Sanitary Institute and the Incorporated Society. General education is possible, although the college is primarily equipped for specialized instruction.

The instruction is of three types: full-time day work for those who can devote their whole time to their studies; evening instruction for those employed in or near London; and correspondence instruction for students in the provinces. Lectures and some instruction are given in the so-called provincial centers of the college at Birmingham, Bristol, Cardiff, Liverpool, Manchester, and Newcastle. The instruction by correspondence does not approach university standards, although the direct instruction at the college is comparable with that of our better evening schools.

The significant fact is that an institution of considerable size is devoted entirely to training individuals for real estate work.

#### THE INCORPORATED SOCIETY

A generation or two ago the work now done by auctioneers and estate agents was quite frequently carried on in connection with another calling or business. The solicitor (lawyer), the furniture shop owner, and even the

undertaker,<sup>16</sup> participated actively. Other instances might be cited. It reminds one of the earlier days in this country when the fruitful specialization which now prevails was very infrequent.

An extraordinary amount of new legislation had hastened the responsibilities of the estate agent or auctioneer. Auctioneering or estate agency became a business which could not be carried on properly in conjunction with other callings. The Auctioneers' and Estate Agents' Institute therefore in 1919 closed its door to applicants who were not exclusively engaged in the work of the profession. The Surveyors' Institution had maintained this policy for years. This excluded a number of persons who, together with those unwilling to seek membership through proper examination, formed the Incorporated Society.<sup>17</sup> Entrance to the Society can be obtained without examination, a condition regarded as non-professional by the three older and chartered societies. The Incorporated Society has provided for an examination system and has announced dates after which members will not be admitted without examination.

Notwithstanding the above, the Incorporated Society is patterning after the older societies and apparently is trying to maintain a good standard of practice among its members. It has distinguishing letters, and in most of its details follows the organization of the older societies. The distinguishing feature of membership is ineligibility for the three previously mentioned societies by reason of connection with commercial or other interests. The society publishes a monthly magazine and incidental documents. Its mem-

<sup>16</sup> The undertakers worked primarily on probate valuations, the shopkeepers mentioned often sold property as well as rented it.

<sup>17</sup> The Society's registered offices are at 26 Finsbury Square, London, W. C. 2.

<sup>15</sup> The College of Estate Management occupies its own building at 35 Lincoln's Inn Fields, London, W. C. 2.

bership is less than two thousand, and is divided into Fellows, Associates, and Students. It should be noted that it is aggressively seeking membership through advertising and promotional correspondence, a procedure regarded as non-professional and therefore not engaged in by the older societies.

#### PROPOSALS FOR REGISTRATION

As licensing and registration has accompanied the progress which has been made in developing real estate morality, it is interesting to see what proposals the societies have made regarding it.

At present all auctioneers are licensed by the government, but there is no governmental registration or licensing of the profession in general. In 1922, a registration bill was introduced into the House of Commons through the joint action of the Surveyors' Institution, the Institute, and the Land Agents' Society. The bill provided that every person in the business or profession be entitled to register during a stated period. Afterward, any person desiring to be registered would have to pass examinations prescribed by registration boards. The registration board was given quite full powers to make conditions of entry, and one of the generally anticipated conditions was that of full-time participation in the professional work.

With striking analogy to experience in the United States the bill was aggressively opposed by the Law Society, and the gentlemen of the bar rather prevail in the English Parliament as in our state legislatures. The builders' organization was opposed to it and, of course, the Incorporated Society, which fought it most aggressively. Since then the matter has rested. The opposition of the legal group and a complete unwillingness on the part of the sponsoring societies to agree to admit mere

dabblers are the two principal reasons for this inaction. Active discussion has arisen recently, however, and it is possible that the effort will be revived. The Incorporated Society has attempted to introduce a bill providing for registration, but with the admission of those working on part time. Not having the sponsorship of the three principal bodies, the measure has received little attention.

A joint committee set up by the Surveyors' Institution, the Institute, and the Land Agents' Society is working on the character and the method for another registration bill.

It is apparent that in the original registration bill the societies attempted to control completely entrance into the business. This is in contrast to the procedure in this country, where the objective has been to establish certain minimum controls through license laws which attempt primarily to protect the owners and the purchasers of real estate from the incompetency and the unethical practice of many engaged in the real estate business.

#### THE AMERICAN TRADE ASSOCIATION

In order to contrast the organization's effectiveness in this country with that of the English societies it is necessary to review briefly the organization of the National Association of Real Estate Boards, the only organization of real estate men in this country. It is primarily a federation of 624 local boards in all the principal cities of the United States and several important cities in Canada. Its membership is 38,937, of which 20,031 are actively engaged in the business on a full-time basis. Thirty-four state associations are affiliated with it.<sup>18</sup> The Association admits to membership anyone engaged in the business, but membership is supposed to necessitate adherence to

<sup>18</sup> Figures as of April 1, 1929.

the standards of practice or the so-called Code of Ethics of the Association. Membership carries the right to use the term "realtor," which right is the special property of the Association and is designed to differentiate those who subscribe to the standards of practice of the Association from those who are not affiliated. The term realtor is actually used a great deal by members of the Association, and large numbers of the public comprehend that some added amount of responsibility is attached to the individual who belongs to the Association and who subscribes to its business standards. It is therefore analogous to the distinguishing letters of the English societies.

The Association makes the keynote of its program the exchange and the dissemination of information among its members. In general, it is a service organization, giving a great deal of its energies toward making its members more proficient in their particular work. In doing this it has an extended program of appraisal, development, and merchandising instruction. The Association enters actively into the publicity field, attempting to keep its activities and proper information concerning real estate before the public at all times.

The Association, in the main, has separated the policing and the leadership functions. Constituent boards have arbitration and conduct committees which deal with flagrant violations of the business code, but the principal reliance for insuring honesty and integrity in the business is placed upon the development of public control through license laws. Half of the states in the Union have license laws, and others are considering such legislation. The legal status of the license laws is insured through a number of important cases, particularly the

United States Supreme Court case, *Bratton v. Chandler*.<sup>19</sup> These license laws deal primarily with the integrity of the participant in the business, but a development of competency is one of their objectives. In four states, at the present time, examination conditions are a part of the law and examinations are periodically given, dealing with financing, conveyancing, and the legal relationship of agency. The laws have avoided any restriction on entrance to the business other than to eliminate such entrance as might react to the detriment of the interests of the public and to the participants themselves, through lack of personal integrity and competency.

In admitting all to membership, the boards assume that the standards of the business can be elevated most rapidly through frequent contact and close organization of as many participants as possible.

The publications of the Association are distinctly of a trade nature, and considerable attention is given to legislative matters.

#### WHAT IS A PROFESSION?

In order briefly to compare the trade groups in England and America as to professionalization, it is essential to decide what a profession is. The English societies have considered themselves as having established professionalism in the real estate business, and membership in their organizations is considered as constituting professionalization of the individual. In the writer's opinion, there has been no end of careless thinking regarding the concept of a profession or professionalization. Economic groups of all kinds, from the icemen and the barbers to the lawyers, have assumed that because they have a common technique and a

<sup>19</sup> *Bratton v. Chandler*, 260 U. S. 110. See also *Hass v. Greenwald* (72 L. ed. 115).

common occupation they have the rudiments of a profession. It seems that, in the main, the idea of profession is an ideal rather than an actuality. Historically, the ministry was about the only group that unqualifiedly met professional ideals, although at the present we are inclined to include the medical, legal, dental, and teaching groups. It would seem that the essence of the concept professionalism is exactly the reverse of commercialism, which is dominated by acquisitiveness. Acquisitiveness is not necessarily bad and accounts for a major portion of our activity and social organization. On the other hand, many of our legal control devices are designed to guide it.

A tentative definition of profession is therefore in point in order that the movements in the two countries may be compared.

(1) The first requisite of a profession is training. This item is associated with education, science, culture, and the approval of such interests.

(2) The acquisitive or profit-making motive becomes secondary or incidental. There has been a great deal of talk about the service ideal in business in lieu of profit making. A fallacy lurks in this inspirational concept. Service in business is a means and not an end. Service is an important basis for profit making.<sup>20</sup>

(3) Individuals are dealt with frequently in relationships of a fiduciary or a confidential nature.

(4) Standards of conduct are formulated and accepted. This item needs no explanation.

(5) The item of individual relation-

<sup>20</sup> " . . . Service as a basis for profit making is coming to be recognized as the true method for creative industry." See "The Profession of Commerce in the Making," *The Annals*, May, 1922, p. 203. Loose presentation of the service ideal as applied to real estate business is found in Hinman and Dorau, *Real Estate Merchandising*, ch. 2.

ship, or personal service, is essential to professionalization and stands in direct contrast to aggressive sales promotion, and so forth. In the profession the customer seeks the practitioner rather than the practitioner the customer.

(6) Public responsibility means an obligation to render service, regardless of monetary relationships. It means the obligation of the doctor to treat everyone (and here a friend raises the question as to whether medicine is a profession) and the minister to serve all alike.

Clearly, these standards represent an ideal, but with every occupation in the world aspiring to and calling itself a profession, some criteria must be established.

#### PROFESSIONALIZATION IN REAL ESTATE

In the light of these criteria, then, do the English professional societies, in contrast with the American Association, approach the professional ideal? The English societies are centered around the notion of training, and they have gone a long way in satisfying this requirement. In the American organization it is not an essential to entrance. Secondly, if professionalization involves a subjugation of the acquisitive motive, certainly neither can be completely approved as a profession. The English practitioner has fewer cross purposes than our American real estate man. For example, it is decidedly unethical conduct for a man whose primary business is that of agency to buy or to sell for himself as contrasted with working for principals. It would seem that in both countries sales promotion and working only on stipulated compensation quite eliminate the personal service and public responsibility idea so essential to a professional ideal.

The question may be frankly raised as to whether or not the real estate business either in England or the United States is a trade or a profession. In



the final analysis, it is primarily a way of earning a livelihood. Of course, it should be conducted under decent and fair working rules. However, behind these attempts to professionalize the real estate business is the primary fact that it pays. It is doubtful whether business can, or need be, professionalized.

In conclusion, the English societies

show us much. They have established significant categories of membership which are incentives to self-preparation on the part of members. The whole educational structure which has been built by the older societies is strikingly significant. The movements in both countries could profit by more intimate knowledge of each other's interests and activities.



# The Indestructible Properties of Land

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LAND is valued because of its productive power, which is here widely defined to include its usefulness for dwellings, offices, and factory sites, crops, forests, and mineral products. Differences in land values arise out of differing degrees of productive power for each or any of the above purposes. Not only does the productive power of one tract of land differ from that of another, but the same tract of land changes in this aspect from time to time. These changes in productive power may be brought about by external factors, such as movements of population, growth or decline of industries, changes in the habit of living, changes in diet, and so forth.

Changes in the quality of land itself also may alter its productive power, as, for example, soil erosion, accumulation of alkaline salts, and development of soil acidity. Certain properties of land, however, may be regarded as indestructible, regardless of the purpose for, and the extent to, which the land has been used. For purposes of analyzing the indestructible properties of land, we shall classify it into four groups, namely, agricultural, forest, urban, and mineral lands, this classification being based upon the different types of products derived from each.

## AGRICULTURAL LAND

In the case of agricultural land, its productiveness consists in its ability to yield crops of grain, vegetables, cotton, and so forth. Ricardo stated in *The Principles of Political Economy and Taxation* that rent is paid for the "use of the original and indestructible

properties of the soil" under a rational system of agriculture. This statement has evoked criticism based upon the fact that soils, under continuous cropping, are known to return declining yields.<sup>1</sup> Such criticism, however, arises largely out of a misunderstanding of the meaning of the terms "original and indestructible powers." First, it will be well to examine the views of the students of soils. The terms "worn-out soils," "depleted soils," or "exhausted soils" are frequently encountered in the literature. One of the foremost students of soils, the late Cyril G. Hopkins, said:

The most important material problem of the United States is to maintain the fertility of the soil, and no extensive agricultural country has ever solved the problem. . . .

The rule is almost universal that old land is less productive than new land. . . .

If the art of agriculture has ruined land, the science of agriculture must restore it; and the restoration must begin while some farmers are still prosperous, for poverty-stricken people are at once helpless and soon ignorant.<sup>2</sup>

The general view of soil scientists is that soils decrease in productive power under the ordinary practice of agriculture as carried on in this country. The economist assumes, without explicitly stating it, that when he says soils are permanent and indestructible, he means that a rational system of agriculture will be practiced

<sup>1</sup> Consult the *Book of the Rothamsted Experiments* (1917).

<sup>2</sup> C. G. Hopkins, *Soil Fertility and Permanent Agriculture*, pp. xviii, xix.

—an assumption not always justified by observed conditions in the United States.

However, much of the difference of opinion between soil scientists and economists is a matter of misunderstanding of terms, the economist being in part at fault in not being explicit in his definition, and the student of soils being at fault in placing too narrow an interpretation on the meaning of the word *land*.

#### POWERS OF THE SOIL

First, what is meant by *powers of the soil*? Evidently it means power to produce, or, in short, productiveness. Productiveness is a better term to use than fertility, since the latter term has very often come to be used in connection with chemical composition. Second, what is meant by *soil*? For the purpose of this discussion, all the physical factors that affect the productiveness of the land are included in the term soil. These factors can be classified into two groups: (1) the soil itself; and (2) the external factors, especially climate and topography.

In order to dispose of the second of these groups, a few examples may be cited to illustrate the importance of topography or climate as factors in the productiveness of land.

(1) The raisin industry of the Fresno district, California, owes its peculiar advantage to the fact that it is in a region of shifting winds, the moisture-bearing, prevailing westerly winds of the winter giving place to the warm, drying, northeast trade winds of the summer. It is also a region of low humidity. These factors combine to give it a warm, dry period in which the grapes can be dried in the sun, a process that is less expensive than artificial drying, and hence is a valuable asset to this grape district.

(2) Another instance is that of the

coffee district of Brazil. The topography of this district is that of a tilted block with its up-raised side facing the ocean. The southeast trade winds blow against the "block" and drop their moisture. Passing down the gentle slope of the block to the interior they become drying winds, this climatic condition existing at the time that the coffee is ripe and is being dried. Here is an instance where topography and wind direction cooperate with the soil itself to give a region peculiar advantages in production.

Climate is, of course, an unchangeable condition. Topography is usually so in the case of rural land, although there are exceptions to this rule in regions of rough topography where the removal of the forest covering, or the prairie sod, has resulted in the washing of the soil. These instances are, however, minor and usually the farmer will take steps to prevent erosion if his acres are valuable. In urban land sites, however, substantial changes in topography are very frequently effected. With these exceptions and explanations, there can be no disagreement with the statement that these factors are permanent and cannot be changed by man.

Returning to the first of these two groups, the soil itself, there seems to be a difference of opinion between economists, on the one hand, and the soil scientists, on the other. The difficulty can be cleared up by analyzing or separating the soil into its several parts and considering the function of each: texture, organic matter, chemical composition, and organisms of the soil.

#### SOIL TEXTURE

By *soil texture* is meant the size of the soil particle. Thus, we have sands where the soil particle ranges from 0.5 millimeters to 0.25 millimeters in diameter, to the clays where the soil

particles are 0.005 millimeters, or smaller. A given soil texture imparts to the soil a very definite character. It is the most important factor governing the water-holding capacity and the water retentivity. It determines the workableness of the soil. Upon texture, more than anything else, depends the kind of crop to which the soil is best suited. Texture governs to some extent the soil temperature, and thereby affects the length of the growing season.

*Soil texture*, under ordinary conditions, cannot be altered, and the character it imparts to the soil is thereby destroyed. It is true that the character of a heavy clay soil, for example, can be altered by adding sand; but the quantity of sand required to effect a perceptible change, even on a small plot, is so enormous that it is out of the range of practical possibility on general farm land.

#### ORGANIC MATTER

The *organic matter* of the soil is the residue of partly decayed grass and tree vegetation which has accumulated since vegetation on the existing land areas began. This organic matter may be considered in two classes, active and inactive, although no very sharp lines can be drawn between them. The most active organic matter consists of such substances as decaying plant roots and crop residues, green manures, and animal manures, incorporated in the soil. These products decay rapidly in the soil, and in the process of decomposition they liberate not only plant food which they contain, including nitrogen, phosphorus, and potassium, but they also set free other decomposition products, such as carbonic acid, nitric acid, and organic acids, which have power to dissolve more or less additional plant food from the mineral part of the soil.

The inactive, or less active, organic

matter consists of the more resistant organic residue which remains after several years and which decomposes very slowly. If present in large quantities, its gradual decomposition may still supply sufficient nitrogen to meet the needs of good crops, although its power to liberate mineral plant food from the soil may not provide adequate supplies of available phosphorus, potassium, and so forth.

The organic matter has accumulated over a period of time requiring many years, and is relatively permanent. Organic matter cannot be added to in any appreciable amount by plowing under green crops. For example, a soil whose organic content is six per cent has in an acre seven inches of soil of 2,000,000 pounds, 120,000 pounds of which is organic matter. If a two-ton crop of clover is plowed under, assuming that none of it was oxidized to end products of carbon dioxide and water,<sup>3</sup> it would add only about three per cent to the organic content of the soil and two-tenths per cent to the weight of the soil itself. Much of the clover, however, would be oxidized and escape as carbon dioxide, water, or free nitrogen, with the result that the existing organic matter is increased in quantities far below one per cent. This does not mean that the plowing under of organic matter (green crops) does not play an important part in crop production, but its function is not that of adding to the quantity of organic matter.

It is the active organic matter which furnishes the nitrogen for the plant, and this can be exhausted. For this reason, it should be placed in the category with the critical mineral elements. It can be supplied by green manuring or by commercial inorganic nitrogen.

It is the inactive humus, however,

<sup>3</sup> Carbon dioxide and water are the final products of complete decay of organic matter.

which affects the water-holding capacity of the soil and, to some extent, its workableness, that is regarded as permanent. Thus, the difference between high organic soils (prairie soil) and low organic soils (timber soil) is probably a permanent one.

The *microorganisms* are a necessary part of the soil in so far as its productiveness is concerned. The growth of plants could not go on without the aid of the microorganisms, which serve to make available the nitrogen and insoluble plant foods. They are indestructible and cannot be controlled by man. They represent an *indestructible power* of the soil.

#### CHEMICAL COMPOSITION

The *chemical composition* of the soil is generally understood to mean, not a complete analysis, but a determination of the amount of those plant food elements of which there is a possible scarcity, namely, phosphorus, potash, nitrogen, calcium, and probably sulphur. Under an exploitative system of agriculture these elements, particularly phosphorus, can be depleted to a point where the productivity of the soil will suffer. But these elements can be replaced with comparative ease, and there are abundant quantities of each found in nature. The rising price of agricultural products and the increasing demand for land will result in a practice of replacing these critical elements in quantities equal to, or greater than, the amount removed in the crop. This is already the case in certain European countries. Hopkins has pointed out that Italy imports more phosphorus in fertilizers than is removed in the crops from the agricultural lands. The supply of mineral plant food is not inexhaustible, and the productive power of the soil, which is in part dependent upon a supply of these minerals in soluble

form, is not an indestructible power under an exploitative system of agriculture as is practiced in the United States. It is significant, however, that the productiveness of the soil, in so far as it is dependent upon chemical elements, is quite easily maintained or restored.

The soil may be compared to a manufacturing plant, with this difference, however, that, whereas the buildings and the machinery of a manufacturing plant depreciate, the soil factory is permanent. It is a factory in which raw materials are converted into finished food products, i.e., the chemical elements are combined to form corn and wheat. Climate, topography, and soil texture are the buildings and grounds in which the operations are carried on. The critical plant food elements may be regarded as the supply of raw materials out of which the finished product is made. The decaying organic matter and the microorganisms causing this decay may be regarded as the power factors in the plant. Where the plant is supplied with a large quantity of raw materials, manufacturing can be carried on for a long time without replenishing the supply. Eventually, however, there will be needed a replenishment of plant food elements out of which to manufacture food—the application of fertilizers, or a rational agriculture.

#### RATIONAL AGRICULTURE

There remains yet to be defined the term "rational." The rational use of agricultural land means: (1) the restoration of critical or limiting plant foods in an amount equal to, or greater than, that removed by the crops; and (2) the proper protection and management of the soil against destructive erosion. This does away with the necessity of saying that livestock farming, or

rotation of crops, and so forth, is a rational system of agriculture, for this is not strictly true. There is, under the best livestock management, or dairying, a loss of phosphorus which must eventually be replaced by the mineral fertilizers.

Probably not more than one-tenth of all the phosphorus shipped from American farms in animal products is returned to the soil in bone fertilizers. . . .

In any case, livestock farming can never be permanently profitable to a large proportion of the farmers in a great agricultural country, because the world cannot live on meat and dairy products only, and the relative supply and demand always compels the sale of much grain from most farms . . . and livestock farmers who feed only the produce from their own land gradually reduce the phosphorus of the soil, at least by the amount sold in the animal products.<sup>4</sup>

On the other hand, a rational agriculture can be carried on without the use of livestock. Experiments carried on for thirty-five years on plots at the Pennsylvania Experiment Station show that the fertility and organic content of a soil can be maintained by growing crops in rotation and applying mineral fertilizers.<sup>5</sup> What constitutes a rational system of agriculture, then, will depend upon the locality, the kinds of crops raised, the climatic conditions, and the kind of farming engaged in, but it must take care of the two propositions laid down in the definition above.

Productivity of *forest lands* is, in many respects, the resultant of the same elements which operate in the case of agricultural land. Certain characteristics, such as the supply of organic matter (leaf mold) can be destroyed in part by forest fires. The surface of the land in an area denuded

of its forest covering is less subject to control than in the case of agricultural land. The greater depth of tree roots, as compared with annual plants, serves to extend the soil environment from which mineral plant foods can be drawn, so that the question of soil exhaustion in forest areas is not likely to arise.

#### URBAN LAND

The productivity of urban lands consists of benefits derived from the use of such land for residential purposes, office buildings, factory sites, terminal facilities, and so forth. The properties of the land which give it value are standing-room and situs. By situs is meant the location of a plot of land with reference to those activities of man in its vicinity which permit of its use for profit-taking purposes. The value of a plot for a warehouse, for example, is governed largely by its location near a railroad depot or a dock. Situs value, therefore, determined by external factors, may vary with the rise or the decline of industry, changes in population, or any of the many variables characteristic of economic society.

Standing-room, or space, is a property of the land itself; it can neither be created nor destroyed. The productive power of such an area can, however, be impaired or destroyed indirectly. Its most effective use for a given purpose depends upon its being in a unit of economic size. A department store cannot find it profitable to use a lot large enough for a dwelling or a gasoline filling station. Cases may arise where a plot of land is too small to be used by any of the types of business that can advantageously locate in its vicinity, and where conditions are such that it cannot conveniently be added to adjoining properties without necessitating rearrangement or

<sup>4</sup> C. G. Hopkins, *Soil Fertility and Permanent Agriculture*, p. 184.

<sup>5</sup> Bul. No. 146, Pa. Agr. Exp. Sta.



reconstruction of entire buildings. In such cases, the immutable location of property boundaries renders its potential spatial productivity of no avail.

In the ordinary sense, mineral lands possess none of the indestructible properties of agricultural or urban lands. The mine is a wasting asset, and, although it may require several years or even decades to exhaust an individual mine, the day of exhaustion eventually arrives. For the mining company, this necessitates a policy of continually purchasing additional mineral-bearing lands. For society,

generally, the factor is not of acute concern, inasmuch as the world's apparent stock of metals and minerals is far from being exhausted.

The term *land* covers a natural resource composed of many complex relationships, all of which are factors in determining its degree of productivity. Some of the factors in this complex substance—land—are indestructible; others are not. The latter properties are easily restored, however, through proper soil management and replenishment by available elements.



# Limitations to Private Property Rights in Land in the United States

By W. C. PLUMMER

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**P**ROPERTY means ownership. It is the legal right to the services of wealth or to the services of free human beings, that is, to income, as the word is commonly used by economists. Wealth, as the term is here used, refers to all those things such as food, clothing, automobiles, buildings, and land—things which are necessary for existence and for the enjoyment of life. As regards wealth in general or land in particular, property means the right to acquire, to use, to control, and to dispose of it. Mere possession of an object does not constitute property right in it. There must be some sort of social recognition; the laws and customs of the community in which the wealth is located or in which the owner lives must protect him in the exclusive use and control of the thing owned.

## CONCEPT OF PROPERTY A CHANGING ONE

While the right of property denotes in every state of society the largest powers of exclusive control over wealth which the law accords, yet, as was observed by a distinguished economist writing fifty years ago, these powers of exclusive use and control are various and differ greatly in different times and places. A historical treatment of the institution of property, or a comparative study of the institution as it exists among the various countries of the world at the present time, shows clearly that the word property does not always stand for exactly the same idea. While the concept of property may be explained very satisfactorily in a gen-

eral way, in spite of the fact that it is a changing concept, it always means something more definite when explained in connection with a given group of people at a given time. Private property in general is one of the fundamental institutions of our present economic system; private property in land has always occupied a strong position in the United States, and continues to do so at the present time.

It is scarcely necessary to mention that absolute property hardly exists, that is to say, the right of use, control, and disposal is almost always limited or restricted by law. It is the purpose of this article to call attention to the limitations to private property in land in the United States at the present time, with some regard also to the immediate past.

## TAXATION

Taxes upon land are a distinct limitation of private property rights. Land possesses certain characteristics not found in other classes of wealth, and for this reason it has often been regarded as a subject for special taxes. These taxes in amount may range all the way from a small fraction to the entire income of land. The purpose of such taxes, if they are comparatively small, is to raise revenue for the support of the Government; but if they are very large, the predominating purpose is usually to bring about reforms in the social system. Taxes on land in this country date from the earliest colonial times and have always been one of the important forms of taxation.

Since the publication of *Progress and Poverty* in 1879 by Henry George, in which he advocated what is known as the single tax, there have been numerous individuals and groups who would like to bring about radical changes in the social-economic order by further limiting private property rights through heavier taxes on land. The advocates of the single tax contend that the Government should take in taxes the entire economic rent of land, and that this should be the only form of taxation. The use of the single tax would mean practically the abolition of private property in land and the substitution of community ownership. There would probably still remain the right of private possession, of alienation, and of use for productive purposes, but the user of the land would be compelled to pay to society, in the form of taxes, the full economic rent. By economic rent is meant the income of land itself, exclusive of any improvements on it. Since the market value of land depends upon its present and anticipated future income, the introduction of the single tax would take from the present owners the equivalent of the entire value of their land.

#### ATTEMPTS TO INTRODUCE THE SINGLE TAX

Frequent attempts have been made locally to introduce the single tax. Mr. George ran for mayor of New York City in 1886 on a single tax platform, and though defeated he made a surprisingly good showing. The State of Oregon was a battleground of those for and against the single tax from the years 1908 to 1918, during which time a single tax movement to amend the Constitution was strongly supported, but finally defeated. There has been agitation for the single tax in other states, principally in California, Colorado, and Missouri.

In 1913, the legislature of the State of Pennsylvania provided for a gradual decrease of building assessments for cities of the second class—Pittsburgh and Scranton—until by 1925 the rate was to be fifty per cent of that on land. This is far from being a single tax law, but it does discriminate against land and in favor of improvements thereon for taxation purposes. While both Pittsburgh and Scranton are thus privileged to make land bear a relatively greater burden of taxation than the buildings on it, Pittsburgh is the only one actually doing it.

In 1922, the legislature of New York authorized the various local government units to exempt from local taxes all new buildings planned for dwelling purposes exclusively. Such exemption was not to extend beyond January 1, 1932. The purpose of the act was to relieve an acute housing problem.

Taxes on land will undoubtedly continue to be one of the principal forms of taxation. There will probably continue to be agitation for the single tax, but, judging by the past, there does not seem to be much likelihood that such an extreme measure would be adopted even locally. Private property rights in land are too firmly established. One of the desirable effects of the single tax movement, however, has been to call attention to the "unearned increment" as a subject of taxation. Many fiscal authorities who condemn the single tax see nothing unjust about taking at least a large part of future increases in land values which are socially created, providing the Government announces its intentions beforehand. The Federal income tax law recognizes increases in land values as a subject for taxation by providing that increment and decrement from purchases and sales are to be included in making the return of income for tax purposes.

### EMINENT DOMAIN

Eminent domain, or the right to take private wealth for public or quasi-public purposes by paying just compensation, is a power of the Federal and state governments. This power is also commonly delegated by state legislatures to municipal corporations. City governments generally have power to appropriate private property, under the condition that the wealth be for public use and that the owner be compensated for it in the manner prescribed by law.

At the present time municipal governments have need of a great deal of land, and usually acquire it by "condemnation," as the proceedings are called, when private land is taken for public use under the power of eminent domain. Land is needed for public schools, public libraries, museums, parks, and for other public purposes too numerous to mention. Sometimes the city governments buy their land in the open market, just as a private person would do, but the opportunities for graft are so great that some cities are prohibited by their charters from buying land in this manner. With the growth of cities and the broadening functions of government more land is needed by municipalities, and this is being transferred from private to public ownership under the right of eminent domain.

### PUBLIC OWNERSHIP

To the degree that there is ownership of land by the Federal, state, or local governments, there is an extensive limitation of private property rights in land. The Federal Government is the largest single land owner in the United States. It has been estimated that the Federal, state, and municipal governments own a total of 870,000,000 acres of land in the United States and Alaska.

This is about thirty-eight per cent of the total land area of the United States and Alaska. The remaining sixty-two per cent is privately owned.

On account of the great public domain, the proportion of land owned by the Federal Government at one time was much greater than now. It was the policy of our Federal Government during the last century to transfer this land to private ownership as rapidly as possible in order to populate and develop the country. With all the advantages of this policy of encouraging home ownership and owner-operation of land, particularly agricultural land, there were some distinct disadvantages of alienating so rapidly the forest and mineral lands.

Private interests own four-fifths of the timber in the United States at the present time. These timber lands were at one time part of the great public domain, and were transferred from public to private ownership in very much the same way as the agricultural lands. As satisfactory as this policy may have been in regard to agricultural lands, it resulted in wasteful and otherwise unsatisfactory utilization of forest lands.

The necessity for conservation of our forests was recognized by some persons during the period of homestead laws and the period of land grants to railroads and to the states, but little was done about the matter before the time of President Roosevelt. The President, with the aid of Gifford Pinchot, "the father of conservation," and others, was responsible for a public conservation movement which resulted in a change of the policy of alienating the forest and mineral lands. The Government decided to retain certain of the forest lands under public ownership and mineral rights in other lands.

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hundred million acres are privately owned and one hundred million acres are publicly owned. Most of the publicly owned timber is in the national forests. The timber owned by the Government is of poor average quality and is hard to reach. Eighty per cent of our standing merchantable timber is privately owned. Ninety-seven per cent of our annual cut comes from privately owned forests. By reason of their extent, quality, and location, the forest lands now in private ownership have always furnished, and must always furnish, the great bulk of the nation's timber supply.

#### BUILDING RESTRICTIONS AND ZONING

Building restrictions, which are a limitation of the right of the owner to use his land as he sees fit, have been imposed by state and city governments in this country for more than a century. The purpose of these restrictions in the earlier times was to reduce fire risk. Later, safeguarding of health became one of the objects of such restrictions. Laws prohibiting the erection of wooden buildings in congested districts had been in force since early days. Slaughter houses, pigsties, and livery stables were many years ago subjected to restrictions concerning location. In 1885, New York City limited the height of dwellings to eighty feet. Chicago and Boston shortly thereafter also established height limits for buildings. In 1909, Los Angeles was divided into residential and industrial districts, and industry was excluded from the residential sections of the city.

Zoning is the name which has been given to the recent practice of dividing a city into districts for the purpose of applying regulations governing the use to which the land in the various districts and the buildings thereon may be put. New York City is generally credited with being the first American city

to pass a comprehensive zoning ordinance. This was done in 1916. It was followed in quick succession by numerous other cities which passed ordinances providing in great detail for dividing the city into districts classified as residential, business, and industrial, and limiting the use and height of the buildings in the various districts.

These various restrictions have been contested in the courts on the ground that they have been unwarranted or unreasonable infringements of the right of private property, but on the whole the courts have declared the restrictions to be constitutional. In 1908, the Supreme Court of the United States declared an ordinance regarding height limits to be constitutional. In 1927, the Supreme Court of the United States in one of its decisions declared in favor of the right of a city to regulate building lines, that is, to prohibit buildings from being constructed within a certain number of feet of the street or of other buildings. While, on the whole, the Supreme Court has declared in favor of building restrictions, it has not approved every zoning ordinance that has been passed and contested in the courts. Some of them have been declared unconstitutional for various reasons, particularly because they are not definitely justified by public welfare.

Several of the states have adopted laws discriminating against aliens in regard to land ownership. California and Washington refuse to permit aliens ineligible to citizenship to own land or to lease it for longer than a period of three years. Washington includes other aliens who have not declared their intention to become citizens. The Supreme Court, in two decisions handed down in 1923, decided that these laws are constitutional.

It has been pointed out above that private property is one of the fundamental institutions of our present

economic system and that private property in land is firmly established in the United States. However, the right of use, control, and disposal of land is almost always limited by law. The important limitations of private prop-

erty rights in land at the present time are taxation, the right of eminent domain, public ownership, building restrictions in cities, and the prohibition of the right of property to certain classes of persons.

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# The Distinction Between Value and Valuation and Its Application to Real Estate

By WELDON HOOT

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IN this economic world useful things become valuable when they become scarce. A price is set upon them and their values are reckoned either in terms of all other useful commodities and services or in terms of one commodity, such as gold. This price of a desirable and a scarce thing is said to be its value. The process by which men agree upon the value of a thing may properly be called valuation.

The two terms "value" and "valuation" are seldom distinguished in this manner. The literature of economics, and particularly those sections dealing with land economics and real estate, is replete with examples of the varying and the confusing uses of the two terms.<sup>1</sup>

This article is an attempt to delineate the terms and to suggest a usage which will prove serviceable and in accordance with the facts.

## WHAT IS A THEORY?

The confusing uses of the terms "value" and "valuation" spring originally from a misunderstanding of the nature of a theory and of the process of its construction. To the average man the word "theory" is a synonym for "vague" and "impractical." It is something to be scrupulously disdained. It is easy to find him saying that a thing looks all right in theory, but that it has no value in practice; or that it looks good on paper, but does not work.

<sup>1</sup>For an example of this among economists, consult Lionel D. Edie, *Economics: Principles and Problems*, pp. 172-74.

This conception of a scientific theory is a mistaken one. A scientific theory, if it is a correct one, is not an impractical thing, but is, instead, an extremely practical explanation. A theory is an explanation of facts, and if it adequately explains the facts it *must* be practical. In any observational science there is always one final test of the validity of a theory. If it works, it is a good one; if it does not work, then it must be discarded and another one must be developed.

The economist constructs theories or explanations of the economic system in somewhat the same way as the physicist or chemist offers theories to explain the constitution and the behavior of matter. The economist is confronted by an economic system in which men, known as business enterprisers, compete for the use of other productive agents (land, labor, and artificial capital). Having secured these agents, enterprisers use them to produce commodities and services. As these commodities (bread, clothing, furniture, and so forth) and services (insurance, transportation, and so forth) are produced, a price is set upon them. This price may be taken as the value of the commodity or service at any given time, although it cannot be used as a measure of value over long periods, since the price is in terms of money based on gold and the value of gold may change over a period of time. A price is also set upon the productive agents, and as this price is high or low the share of the agent in the total product is large or small. This is



equivalent to saying that the four productive agents—land, labor, artificial capital, and business enterprise—unite to produce commodities and services. This product is called income. Payments for the use of productive agents are at the same time the costs of production of the business man and the shares of the productive agents in the total net income produced. Net income, it should be noted, is the remaining income after all replacements have been made.

It is the economist's most imposing problem to explain the processes, rules, principles, or laws which govern the values of commodities and of the productive agents used to produce them. How difficult and how important this problem is, may be seen from the fact that the total annual income produced in the United States approximates ninety billion dollars, that the estimated value of our national wealth is several times this sum, while the total annual value of all exchanges, i.e., purchases and sales, in the United States is upwards of seven hundred billion dollars. Exchange or market values are placed upon all items of wealth and income which are exchanged as well as upon many items which are not exchanged.

#### THE THEORY OF VALUE

The economist's explanation of the manner in which these values are determined is known as the theory (or explanation) of value. According to this theory, briefly stated, the value of those commodities which are reproducible will tend to be established at the cost of production, so long as conditions of competition prevail. This is brought about by the action of the familiar forces of supply and demand.

In the case of the division of the income from the productive agents,

the explanation is that the marginal or "last" unit of a given agent will determine the price at which the other units may be had, and hence, under competitive conditions, will determine the share or percentage of the total product which the agent will receive. In the case of two of the productive agents—labor and artificial capital—the supply can be increased or decreased. The amount of labor available at any given time tends to vary according to the size of the population within a given area and according to the proportion of that population which is gainfully employed. The supply of artificial capital varies with the amount of savings which are used for purposes of investment in durable economic goods. The share of the business enterpriser is known as "pure profits"—the residue which is left over after all expenses have been paid. The expenses of the enterpriser would include a payment for his own labor and interest on his own capital. If competition were perfect and if uncertainty could be entirely eliminated, the pure profits of the business enterpriser would not exist. But, this is a condition contrary to fact in a world of reality, and consequently pure profits continue to exist.

The share of income which goes to land as rent is determined by circumstances which are partly peculiar to land. The supplies of labor, artificial capital, and business enterprise may be increased or decreased by incurring specific costs; but the physical supply of land is practically fixed, and even the economic supply available for use can be increased or decreased in any one locality only within narrow limits. Hence, the share of income which goes to land, and therefore to the value of land, is influenced primarily by the demand for it under conditions of relative fixity of supply. As demand

increases, the possibility of increasing the usable supply is more remote than in the case of labor and artificial capital. As a result, the share of income which goes to land and to the value of land may be expected, in the long run, to rise sharply, unless economic supply can be increased in direct proportion to growing demand with increasing population.

#### PROCESSES OF VALUATION

The actual values which the economist sees placed upon commodities and services in the business world of today are the results of processes of valuation<sup>2</sup> carried on by those engaged in business. Business men are accustomed to sell their products for what they can get for them—frequently regardless of the costs of production. In the business man's estimate of the sale value of products, there will usually appear an estimate not only of its present value, but also of its future value, provided, of course, that it is a product which can be held without deteriorating. Similar considerations influence the buyer. Between seller and buyer a process of bargaining is carried on until a price (or value) is agreed upon and a sale is made. This constitutes the market value or the market price.

There are many cases in which it is necessary to secure an expression of a value for an article of wealth when no such value is placed upon it by the ordinary market processes described above. Numerous cases are found among the public utilities when rate-making is involved, and, in the case of real estate, for taxation and other

<sup>2</sup>The term "appraisal" is a convenient synonym for "valuation." Both terms may be restricted in their meanings to processes of reaching "values." "Assessment" might also be used as a synonym for "valuation," but it is less desirable because the use of the term is usually connected with taxation.

purposes, where a sale is neither intended nor perhaps desirable, although the fixing of a value is necessary.

If the article of wealth is freely reproducible—a building, for instance—a value might be placed on it by the process of securing figures on market costs of production and deducting suitable amounts for depreciation due to various causes, or by securing figures on present cost of production new, and deducting depreciation. Another process of valuation which might be resorted to is the capitalization of the regularly recurring net income yielded by the building at the prevailing rate of interest, with a similar capitalization of the expected increase in future income. Since expected decreases in future net incomes cannot be computed mathematically, allowances for such decreases are usually made by increasing the present rate of capitalization. Resort is often made to cruder methods of valuation in an effort to secure value. Sometimes a committee may meet to discuss and to agree upon a value. That is perhaps the crudest method in use.

Except within certain limits, land is not a reproducible good. Hence, as land, in its natural state, it has no cost of production and the process of valuation from cost of production is therefore not applicable. Furthermore, since land is not composed of standardized units, each parcel being unique, and since sales are infrequent and usually not made in a highly competitive market, selling prices established under such conditions are a rather unsatisfactory index of value. Thus, there remains only an analysis of the net income which land produces, and that which it may be expected to produce in the future, as the most reliable basis of valuation in order to arrive at a value. It is to the capitalized value of such present and antici-

pated net incomes that, in the long run, the economist would expect land values to conform.

#### DIFFERENT PROCESSES GIVE DIFFERENT VALUES

It would be too much to expect that different processes of valuation would produce the same value results. Thus, when values are sought, there is apt to be disagreement as to how the valuation should be accomplished or what method of valuation should be employed. Again, there may be different values based on different valuation procedures for different purposes. A recent example,<sup>3</sup> which strikingly illustrates the point, has come to the attention of the writer. In a Georgia town an appraisal company was valuing the real estate within the town limits for taxation purposes at the same time that the valuation experts of the railroad were valuing the property of the railroad within the town for rate-making purposes. Since the appraisal company's contract excluded the railroad's property, the town was left without a value for the property of the railroad within its limits. It was suggested that the town accept for taxation purposes the railroad's own value of its property, arrived at by the process of valuation, for rate-making purposes. The railroad promptly objected. Aside from questions of attempts to secure high rates and low taxes, it becomes evident that if, for example, the railroad's property were given a value based on original cost less depreciation, or on reproduction cost less depreciation, and the remainder of the property within the town's limits were assessed at lower values arrived at by other processes of valuation than either of the above, the result would cause dis-

criminary taxation of the railroad's property.

If valuation processes, used in cases where a market value is not provided by the usual market processes, were more perfect, it would be possible to approximate more closely those market values which competition would create. Such values would be the "normal values" of the economist, that is, those which would tend to be reached in a market composed of numerous and competing buyers and sellers, able and willing to buy and sell, and thoroughly informed as to the object of the transaction.

#### "NORMAL" VALUE

The desirability of approaching the economist's concept of "normal value," in cases where it is necessary to select a value by valuation procedure, raises the question of whether or not several valuations and several resulting values are more likely to give a closer approach to "normal value" than the use of a single valuation process. It would seem that the larger the body of evidence, the more reliable the conclusions. Each process of ascertaining a value approaches the problem from a different angle, and the composite result is that the final judgment is inclined to be more circumspect and reliable as evidence of normal value. The final value would be a composite or average result.

A case of measurement analogous to this, but by no means identical with it, is illustrated by the method of the National Bureau of Economic Research in estimating the income of the United States. Happily, the market values were provided. But, two methods were used to estimate the total income, and each estimate was made independently of the other. The first method used was to estimate by industries, in terms of money,

<sup>3</sup> For this illustration I am indebted to Mr. Louis Knight.

the annual net value product. The second method employed was to total the money incomes received. Each method attempted to measure the same thing from a different angle. Which of the two estimates could be taken as the income of the United States? The Bureau split the difference between the two and called the average of the two estimates the national income.

Similarly, in finding values by valuation processes it is seldom possible to secure one satisfactory result. The use of several valuation processes may prove more satisfactory than one, since each will be a check on the other. This is again analogous, and only analogous, to the choice of a median, a mode, or an average, by the statistician, although the cases are by no means identical, since value is not a statistical concept and the present writer is not prepared to discuss the possibility of its being made one.

#### VALUE AND VALUATION OF REAL ESTATE

Real estate is composed of two agents of production—land and artificial capital. Under the term "land" is included not only land which is used for site or agricultural purposes, but all natural resources. The term "artificial capital" includes all the products of man's labor—buildings, roads, fences, drainage systems, and so forth. The artificial capital element in real estate can itself be divided into two classes. The first of these consists of improvements *to* the land such as roads, improved harbors, and so on. Such improvements are usually of a public nature and frequently increase the value of the land far above the cost of the improvements. The second class of improvements may be termed improvements *on* the land. These consist, for the most part, of buildings.

Such improvements are usually, but not always, made by private agencies, and can be evaluated on a cost basis with satisfactory approximation.

Since real estate is composed of the two components, land and artificial capital, and since the supply of the first is relatively fixed in any one locality and the supply of artificial capital can be increased or decreased, as previously explained, the principles determining the net incomes, and therefore the values of the two components, differ essentially. The former analysis follows the laws of economic rent, while the latter follows those laws pertaining to the determination of the interest rate. Therefore, when real estate is valued, the valuation process should be separated into two parts: (1) the land should be evaluated by any or all possible valuation processes intended to ascertain the present and the anticipated income-yielding capacity of land; and (2) the improvements on the land should be evaluated on a cost, less depreciation, basis. Let it be carefully noted again that in considering the value and the valuation of real estate, clarity is attained only when "value" is used as a *result* and when "valuation" is used as a *process* of finding a value.

#### SUMMARY

A substantial confusion exists in the literature of both economics and real estate concerning the use of the terms "value" and "valuation." This confusion, in the opinion of the writer, springs originally from the misunderstanding of the nature of a theory. A theory is an explanation of facts. Hence, a theory of value is an explanation of the influences determining value and a theory of valuation is an explanation of the processes used in arriving at a value. A value is the

result of valuation procedure. Valuation is the process of reaching a value. In the business world this process is carried on in market transactions, and values are reached. These facts become the material which the economist analyzes. The economist's analysis of the determination of values under conditions of competition offers a guide to valuation procedure when market prices are not obtainable.

Frequently reliable value evidence is not made available by the ordinary operations of business in real estate market transactions. Then it be-

comes necessary to resort to special processes of valuation in order to determine value. But, different processes give different results. The process or processes of valuation which come nearest to giving the value which would be reached under assumed competitive conditions should be the goal of valuation procedure. Several processes of valuation may be more satisfactory than one in arriving at reasonably accurate value, since each would tell us something about the value of real estate and one would serve as a check on the other.



# The Unearned Increment in Land Values and Its Social Implications

By WILLIAM N. LOUCKS

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THE unearned increment in land values has been discussed for many decades. Proposals have been made to do this, that, and the other, with the increment. Programs of social and economic reform have been based on the socialization of the increment. Yet, surprising as it may seem, very little attention has been given to the basic question: What is an increment in land value?

## THE SOCIAL VERSUS THE INVESTMENT INCREMENT

There is no exclusively correct definition of an increment. It may be defined in a variety of ways, the one to be selected depending upon the purpose of the discussion or the object of the analysis. In general, there are two points of view from which the increment may be considered. These may be designated "the investor's viewpoint" and "the social viewpoint."

To the investor, no increment in the value of land has occurred unless the selling price of the land exceeds the price at which it was purchased by more than enough to compensate the owner for all the costs of holding the land and for the cost of any improvement he has placed upon it. Included in these costs of holding would be the amount of interest which would have been received had the buyer of the land placed his money in some alternative investment of equivalent safety. It will be impossible to analyze carefully in this discussion just what should and should not be included in these costs of holding. Failure of investors to

base their calculations on an accurate investment concept of the increment is undoubtedly responsible for the losses of many buyers.

When examined from the social point of view, the increment comes to be something quite different. An increment in value has occurred when the difference between the purchasing price and the selling price—the latter having been corrected for a change in price level—is in excess of the cost of any improvement the owner has made on the land during the period of his ownership. The adjustment for any change in price level is necessitated by the fact that a value increment has occurred only when some buyer becomes willing to give in exchange for the piece of land more goods and services or purchasing power, rather than merely more dollars, than formerly were offered. It will be noted that an increment in this sense may exist even when the amount by which the selling price exceeds the purchasing price is not enough to cover the investor's costs of holding the land. It is also true that an apparent increment from the investor's point of view may, from the social point of view, be merely an increase in price due to a change in the general level of prices. If the price level has remained stable, the occurrence of an investment increment always indicates the existence of a social increment. On the other hand, social increments often occur in the absence of investment increments.

It is our purpose to discuss the social aspect of land value increments.



Therefore, the term "increment," unless otherwise specified, will always refer to increment from the social point of view. This concept may be expressed as a formula: Increment equals selling price (corrected for change in price level), minus purchasing price. Many interesting questions, such as the legitimacy of possible deductions from the selling price before the increment is calculated, cannot be treated here.<sup>1</sup> Although much remains to be done by way of clarifying the meaning of the term "increment," the formula expressed above will serve as a sufficiently accurate concept for use in the following discussion.

#### INADEQUACY OF DATA

Probably no controversial economic question is more handicapped by a lack of statistical data than is the one being treated here. Astounding reports of fortunes made through profitable investment in land are constantly circulated. However, comprehensive surveys of the existence and the extent of increments are so scarce as to be real curiosities. Do increments really exist? Are they, on the average, entirely offset by decrements? To what extent are increments, from the social point of view, eaten up by investor's carrying costs? What is the relation between population and increments; between public improvements and increments; between technical progress and increments? The list of questions, to which as yet there are no satisfactory answers, could be extended almost indefinitely.

<sup>1</sup> For discussion of these questions, see: G. B. L. Arner, "Land Values in New York City," *Quarterly Journal of Economics*, 36:545-48 (Aug., 1922); H. L. Shannon and H. M. Bodfish, "Increments in Subdivided Land Values in Twenty Chicago Properties," *Journal of Land and Public Utility Economics*, 5:29-36 (Feb., 1929); W. N. Loucks, "Increments in Land Values in Philadelphia," *Ibid.*, 1: 469-77 (Oct., 1925).

It is not a mere coincidence that we know so little about increments. Actual selling prices of specific pieces of land must be known as the prerequisite of all research in this field. This information is practically inaccessible in the great majority of cases. Scraps of data may be discovered in taxation records and in deeds which are open to public inspection, but the sources of the most necessary information lie concealed in private transactions and in confidential real estate accounts.

Despite the difficulties involved, a few more or less extensive searches have been made for increments or decrements which could be stated in definite dollar terms. Five of these will be reviewed briefly. Four of the five deal with the cities which rank first, second, and third in population in the United States.

#### LAND VALUES IN NEW YORK CITY

The first study, that of land values in New York City, is based upon a variety of samples of vacant and slightly improved land.<sup>2</sup> It is rather difficult, in view of the complications involved, to summarize the findings, but, briefly, they are as follows. In a group of nine vacant tracts in Manhattan, the values in 1880, expressed as percentages of the values in 1921, were as follows: 44 per cent, 8 per cent, 21 per cent, 20 per cent, 20 per cent, 19 per cent, 9 per cent, 22 per cent, and 14 per cent. A large tract in the Washington Heights section was worth, in 1891, seventeen per cent of its value in 1921. However, investigation of a group of ten tracts sold at auction discloses that their values in 1913 varied from 71.1 per cent to 135 per cent of their values in 1921, four of the tracts having experienced decrements in value. None of these figures has been corrected for changes in the price level.

<sup>2</sup> Arner, *op. cit.*, pp. 545-80.

The Chicago study traced the changing values of twenty tracts of vacant subdivided land located in the North and South sections of the city.<sup>3</sup> The periods over which the increments were calculated vary from four to fifty-three years. The aggregate price of these properties in the purchasing years was \$45,104, and the aggregate value in 1925 was \$221,800, the appreciation in value having been \$176,696. However, this increment is not corrected for changes in the price level, and, since the period covered was in general one of rising prices, such a correction would reduce the increment. It is interesting to note that in this, as well as in other similar studies, the investigators are the first to warn against accepting the results as conclusive. The smallness of the sample used, together with the difficulties of making such an investigation, seriously reduces the significance of the results.

A study made in Philadelphia included in its scope fifty tracts of vacant land.<sup>4</sup> These tracts were divided into four groups, the first consisting of sixteen small tracts clustered together in the northern part of the city, the second comprising three large tracts located in the northern part of the city, the third consisting of twenty-eight small tracts scattered over the residential portions of the city, and the fourth including three large tracts also scattered over the residential sections. The increment period varied from thirteen to thirty-three years in the various cases. Taking the actual aggregate selling prices in 1913 (corrected for the change in price level) as one hundred per cent, the aggregate prices of these four groups were, in the purchasing years, respectively, seventy-one per cent, sixty-seven per cent, fifty-six per cent, and thirty-four per

cent. In terms of dollars, and not corrected for the change in price level, these increments were as follows: first group, \$4,692; second group, \$6,915; third group, \$8,505; fourth group, \$16,200. The percentages represent true increments from the social point of view, since the figures on which they are based have been corrected for the change in price level.

#### UNEARNED INCREMENT IN GARY

These three studies attempted to measure increments or decrements in the values of specific pieces of land. Slightly different in nature was the calculation of the increase in value of all the land in Gary, Indiana.<sup>5</sup> The conclusion was that

the land beyond the mill-gates in Gary was worth, in 1906, not more than six and one-half millions, and that today (1917) its selling price is about thirty-three and one-half millions.<sup>6</sup>

However, it was found that the recipients of this increment had contributed to improvement of the land, and so forth, about five millions, leaving an unearned increment of about twenty-two millions. This, corrected for a change in price level, becomes about twenty-one millions as "unearned increment which has accrued in Gary in the first ten years of its history."<sup>7</sup>

Using a still different method of calculation, another Philadelphia study sought to determine the trend in the value of all taxable land located in the thirty-four blocks comprising the central business district of that city.<sup>8</sup>

<sup>3</sup> R. M. Haig, "The Unearned Increment in Gary," *Political Science Quarterly*, 32:80-94 (Mar., 1917).

<sup>4</sup> *Ibid.*, p. 84.

<sup>5</sup> *Ibid.*, p. 92.

<sup>6</sup> W. W. Pollock and K. W. H. Scholz, *The Science and Practice of Urban Land Valuation*, pp. 189-205.

<sup>7</sup> Shannon and Bodfish, *op. cit.*, pp. 28-47.

<sup>8</sup> Loucks, *op. cit.*, pp. 469-77.

This area is bounded on the north by Arch Street, on the east by Twelfth Street, on the South by Walnut Street and on the west by Sixteenth Street. The values of the tracts of land were ascertained in 1910 by use of the Sommers unit system of land valuation. In 1925, the values of the same tracts were analyzed by methods identical with those used in 1910. A comparison of the 1925 figures with those of 1910 shows that the value of all the land included in the thirty-four blocks increased from \$123,005,419 to \$280,384,707, or by 127 per cent. These figures were not corrected for the change in price level. Every block in the district experienced an increment in value over this fifteen-year period, the increases by blocks varying from 77 to 287 per cent.

#### PAUCITY OF STATISTICAL DATA

Statistical data concerning present land values, past land values, and trends of land values are extremely meager. The studies referred to are practically the only serious attempts to get at the actual measurement of increments in terms of dollars. The New York, Chicago, and Philadelphia studies are of greater significance as expositions of increment-calculating methods than as fact-finding investigations. The same could be said of the Gary study, although the approach is slightly different. The difficulties to be surmounted are great, but it is to be hoped that intensive and extensive research will bring to light many things which must be known before problems connected with changing land values can with accuracy be considered in their proper perspective. It is with a full admission that many of the fundamental requisites to such a discussion are lacking that we proceed to discuss the social significance of value increments.

In order that the problems to be considered may take as tangible a form as possible, it may be advisable to state briefly some conclusions which *seem* to be substantiated by the research work so far accomplished:

First: From a social point of view increments *do* exist. In the studies referred to above, substantial social increments in value were discovered.

Second: These social increments are probably neither as large nor as extensive in number as they are often assumed to be. As a general rule, the lucky land speculator makes known his gains, while the unfortunate one takes his losses in silence.

Third: When social increments do occur, they often accumulate rapidly. A sharp increase in value is often preceded and followed by long periods of practically non-changing values.

Fourth: Investors' increments are much smaller and fewer in number than are social increments. Especially if the land is held for a substantially long period, the tendency is for carrying costs to eat away the social increment. This tendency is very evident in the cases treated in the New York, Chicago, and Philadelphia studies. The importance of interest on investment as a carrying cost is illustrated by the fact that for the Chicago tracts the interest

was greater than the total of the original investment in the property, the total taxes paid, and the special assessments paid.<sup>9</sup>

Fifth: Decrements also occur from both the social and the investor's point of view, obviously more often from the latter than from the former. This fact has frequently been completely overlooked in discussions of the increment. The Chicago investigators declare that from an investment viewpoint, "the probability of receiving a

<sup>9</sup> Shannon and Bodfish, *op. cit.*, p. 37.

decrement is approximately one in three."<sup>10</sup>

Sixth: Of foremost importance in this particular discussion is the strong probability that land values, both urban and rural, will increase in the future in those places where population is increasing and technical progress is occurring. From a social point of view, increments will probably more than offset decrements, leaving a net gain in the value of land or a net social increment in value.

#### PRIVATE RECEIPT OF THE SOCIAL INCREMENT

This net social increment in itself has no significance. It cannot be said to be good or bad. However, our legal institutions decree that this increment shall go to people who own the land during the period in which it accrues. It is this phase of the question which has real social significance. The matter to be discussed should be phrased: What is the social significance of the private receipt of the social increment in land values? This phraseology does not represent an attempt to beg the question, since the term "social increment" is used merely in the technical sense in which it has been defined.

In general, three distinctly different answers have been given to this question:

(1) That the receipt of land value increments by individuals stimulates the best productive use of the land, is therefore something which the individual works for, earns, and should get, and that his receipt of it benefits society at large through encouraging production.

(2) That these increments are unearned income in the sense that they do not result from activities of the individual per se, but that the private receipt of them does no one in society any harm.

(3) That increments are unearned incomes and that their private recipients are getting something which someone else—the rest of society—loses.

Obviously, these opinions are widely different. They provide an interesting illustration of the variety of answers one may get to a problem in the field of the social "sciences."

The view that the private receipt of the increment increases society's production by stimulating the best use of land is widely held. The supporting arguments for this proposition follow several lines of reasoning.

The increment in the value of land is sometimes said to be the wage of the pioneer for his services in clearing the forests, putting the land into usable shape, and bearing the hardships of frontier life. It is argued that if there were not this chance of gaining through an increment in value there would not be sufficient incentive to push out the boundaries of usable land to include more and more virgin soil. The private receipt of the increment "opened the West" and "raised the curse of periodic famine from Western civilization."<sup>11</sup>

There are several apparent weaknesses in this line of thought. It presumes that the people who did the pioneer work received, and are receiving, the increment. It does not account for the increments which have occurred, and are occurring, in the value of urban land and developed agricultural land. It must be remembered that any increase in selling price which results from an actual investment of money and labor in a piece of land cannot properly be termed a social increment. To what extent the private receipt of the increment can be justified on this ground in an

<sup>10</sup> Shannon and Bodfish, *op. cit.*, p. 43.

<sup>11</sup> A. S. Johnson, "The Case against the Single Tax," *Atlantic Monthly*, 113: 33 (Jan., 1914).

undeveloped or semi-developed country, it is almost impossible to say. However, in a country which has passed the pioneering stage, this argument has weight only to the extent that the persons who actually did the pioneering are still holding the land. Even in such cases one could ask whether increments received bear any definite relation to the value of the personal effort of the pioneer.

#### INCREMENT AS REWARD FOR SERVICES

It is also suggested that the increment may act as an incentive to, and payment for, conservation, care, or administration of the use of the land. The owner builds a fence around his land to keep trespassers from injuring its productive properties. This protection and care justifies a reward. However, the cost of the fence would be taken out of the selling price before a social increment could be said to occur. Of a more intangible nature would be the planning and the administering of the use of the land on the part of the owner. It is true that any service of this sort which the land owner performs assists society in satisfying its wants and should be paid for. However, can we assume that there is even the slightest relation between the increment and the real worth of these services? Are not the other causes of increments so important that it would be impossible to assume that the increment is a fair reward for these services of the owner? Moreover, if the land is being used by the owner, he is already benefiting from the care he is exercising in its use by the resulting increase in production.

Of a similar nature is the contention that the person who owns land will use it to produce commodities, even though they do not sell for enough to cover the cost of the labor and the materials used, if the land is increasing

in value and he is permitted to get the increase. In other words, the increment acts as a bonus or compensation for low selling price of the product and society benefits through production which has been stimulated in this manner. This proposition fails to take into consideration the fact that the owner does not need to *use* the land in order to get an increment in value which is a true social increment. If the owner is a farmer and cannot get the full market return for his labor and capital in raising agricultural products, he can turn that labor and capital to some alternative use and yet retain possession of the land and receive the social increment. Although there may be other reasons for continuing to produce when price falls below cost, it would seem to be faulty reasoning to argue that the prospect of getting an increment keeps the owner producing farm products and turning them over to society at low prices, when the same increment could be received, even though he were to remove his labor and capital to more productive alternative uses. The same argument is applied to land used for building purposes. But, would a man put up an apartment building on a piece of land when he thought that the return from the rentals would not justify the expenditure for the building, but that a prospective increment might make up the deficit? It is obvious that he would not, since he can put his capital into uses where the competitive rate of return will be received, hold the land vacant, and yet receive the increment.

Compensation for risk is another justification often advanced for the private receipt of the increment. It is claimed that the land owner bears the risk of declines in land values and that the increments, when, as, and if received, are compensation for this risk. If risk were not thus compensated,



land would be used less and society would receive less product. The point overlooked in this case is that there are two distinct types of risk involved. The one is that the price at which the land can be sold may decline. The other is that the selling price of the product may not cover its entire cost. If, over a period of time, the product does not sell for an average price sufficient to compensate for deficits incurred when the price of the product is low, the producer will restrict or will cease production. The bearing of this risk benefits society, for it is only when someone assumes it that production takes place. However, bearing the risk of declines in land values performs no social service. The land would be there with the same productive properties, even though its price were to decline, and consequently the person who places himself in such a position as to assume the risk of declining values does not perform a service for which society owes him anything—even the chance of getting possible increments. Land is not produced by man; therefore, the supply of it available for society's use does not depend upon the land owner's being rewarded for assuming the risk involved in changing values.

#### "THEORY OF RIPENING USES"

Professor Richard T. Ely has developed an interesting justification of the private receipt of the increments in land value, which he calls the "theory of ripening uses."<sup>12</sup> It is his contention that a period of withdrawal from productive use usually accompanies the change from one use of land to another, and that the person who holds the land during this non-income producing period has earned that portion of the social increment necessary to

compensate him for the carrying costs, such as taxes, special assessments, and interest on the investment. The implication is that the owner assists in getting various pieces of land into their most productive uses, thus increasing the amount of product and earning the increment as a reward for his services.

Without question, any service the owner performs in directing land into its most productive use should be paid for. However, it must be remembered that the owner did not actually produce the land and make it available for this more productive use. It is possible that he may have prevented a two-story building from being erected, thus keeping the land clear for the ten-story building which community growth justified ten years later. If the cost of erecting and razing the two-story building would have exceeded the value to society of its use during the ten-year period, the owner of the land has saved society something and has justly earned a reward. In some such way it is possible that owners earn a portion of the increment received in the increased selling price.

However, it is to be noted that Professor Ely's theory assumes that the increment will approximately equal the value of such services, plus the carrying costs which the owner has incurred. As a generalization, this is open to question. In the first place, there are those cases in which the land is not actually held out of use during its change from one form of production to another. In such cases it could scarcely be claimed that the costs of holding the land are proper charges for the owner to levy against the increment. On the other hand, Professor Ely seems to be considering the private ownership of land as necessary or desirable, when this may be the very point in question. The alternative to private ownership is public ownership.

<sup>12</sup> R. T. Ely, "Land Income," *Political Science Quarterly*, 43: 410-13 (Sept., 1928).

The cost of publicly holding land during the period between its "lower" and its "higher" use might conceivably be much less than the costs incurred by a private owner. That portion of the increment which represents the real, socially necessary cost of transference from a less important to a more important social use should justly be repaid to individuals who bear it. That these socially necessary costs of transference coincide with increments could not be assumed with any degree of assurance on the basis of our present knowledge of land and land uses.

The preceding justifications of the private receipt of land value increments are alike in that each points to a service the individual supposedly renders society, which service is tied up in some way with the use of land. Without doubt, individuals do sometimes make land better, that is, more productive, by their efforts. Just to the extent that they do, they are deserving of a compensatory income. However, the common weakness of these theories is that they point to some service of this sort rendered by the individual and then proceed to leap across a broad gap by assuming that the size of the increment will bear some necessary relation to the social value of the service performed. In order to justify the increment from this point of view there need not be an exact correspondence; but, unless there is some substantial degree of correlation between the value of the services rendered society by the land owner and the amount of the increment, it would seem rather incongruous to justify the private receipt of the increment on the ground of personal service rendered.

#### EFFECT OF PRIVATE RECEIPT ON SOCIETY

Quite different is the second of the three evaluations of the social signifi-

cance of the increment. This view, although probably widely held, is not often expressed. It holds that the recipient of an increment in land value has found something which no one else has lost and that, although he individually gains through the lucky find, the rest of the members of society are no worse off than they otherwise would have been.

Professor T. N. Carver, in his stimulating *Essays in Social Justice*, formulates very neatly the argument lying behind this view:

Some wealth is found. If I stumble upon a gold nugget, or a rich vein of valuable mineral, I cannot truly say that I have earned it, nor can anyone else. Until someone could be found who could prove that he had produced or otherwise earned it, I could not be accused of depriving anyone else of his earnings. In the opinion of the present writer, the site value of land belongs in the class of findings, rather than in that of earnings or stealings.<sup>13</sup>

Professor Carver obviously does not agree with those social reformers who contend that "when one gets something for nothing, someone else gets nothing for something." The question of whether or not it is possible for one individual to get an unearned income without depriving others of something earned will be discussed in detail later. In the meantime, it should be noted that Professor Carver's attempt to prove by analogy that land value increments are findings which take nothing from anyone else is fatally weakened by the fact that the two cases he cites are not at all comparable. The man who found the gold nugget produced the gold nugget in the true meaning of the term "production." Of course, he did not actually create the gold, but production does not mean the creation of materials. He did bring the gold into the range of society's use.

<sup>13</sup> T. N. Carver, *Essays in Social Justice*, p. 282.

He was the means of providing society with something possessing want-satisfying power which society previously did not have. By finding and taking the nugget to a jeweler, who gave him in exchange for it the means of purchasing other goods and services, the finder actually increased the amount of gold available for the satisfaction of people's desire for that commodity, just as certainly as does the man who swings a pick in a gold mine. In other words, the finder of the nugget increased the amount of wealth in the possession of society and unquestionably deserves a reward for having done so. On the other hand, the recipient of the increment in land value, assuming he did not improve the land in any way, has not increased society's ability to satisfy its wants. He has increased neither the supply nor the productivity of land. The increment has not resulted from bringing to any individual in society anything which would increase that individual's power to satisfy his wants. The land was the same when the increment receiver sold it as when he bought it, and the increment cannot, therefore, be compared with the value of the gold nugget discovered for the first time.

An accurate analysis would show the relative positions of these two individuals to be as follows. The finder of the gold nugget produced one gold nugget and received or acquired the exchange value of one gold nugget; the recipient of the increment produced nothing, since it is assumed that he did not improve the land while it was in his possession, but he received or acquired the increase in the exchange value of the piece of land. The two cases are clearly unlike in essentials, and Professor Carver's mistaken reasoning is all the more noticeable since it follows almost immediately his statement:

From Adam Smith down, economists have recognized the fact that the fortunate owner of a piece of land whose mere site value, irrespective of all improvements, has increased on his hands, is simply a recipient of good fortune and that this part of his wealth *does not represent his own earnings in any way, shape, or manner.*<sup>14</sup>

Incidentally, it may be noted that this statement is not strictly true. Some of the previously cited justifications of the increment as earned income find supporters among economists of first rank. It is a small matter that this analogy has been confused. It is a matter of much greater importance that many people measure the social significance of the private receipt of land value increments in similar terms. The soundness of the contention that increments thus taken by individuals cause no one else any loss will be further analyzed in succeeding paragraphs.

The term "unearned income" has been used in the foregoing discussion. Before proceeding to an analysis of the position of those who emphasize the unearned nature of land value increments, it may be well to pause for a brief statement of just what an unearned income is.

#### WHAT IS "UNEARNED INCOME"?

Whenever anyone receives an income not resulting from personal effort, either physical or mental, which effort has made available to society in general want-satisfying goods or services, he is said to have received an unearned income. In the first instance such an income takes the form of money, but, as spent by the receiver, it actually becomes goods and services. The total product of all economic activity during a given period—for instance, the year 1930—may be thought of as a heap of goods and services which satisfies people's wants. Individuals draw

<sup>14</sup> T. N. Carver, *Essays in Social Justice*, p. 281. [Italics ours.]

upon this heap for goods to satisfy their individual wants. Their power to draw out goods for their own use is determined by the number of dollars each has to spend. One way in which these dollars can be obtained is to add something to this heap—that is, make and throw on the heap food, automobiles, candy, tobacco, physician's services, or any other want-satisfying commodity. Dollars obtained in this way constitute earned income. Dollars obtained in any other way are unearned income.

Care must be used in applying this concept to actual cases, for occasionally an income which upon first thought appears to be unearned, turns out in reality to be earned. For instance, a man obtains dollars as interest on bonds which he has previously purchased. As a receiver of interest he would seem to be adding nothing to the product through personal effort, and yet he cashes his dollars into actual goods and services which he draws from the heap. However, the fact is that he has added to the heap through personal sacrifice and that his income is therefore earned, provided he himself saved the money with which the bonds were purchased. He has refrained from using purchasing power in his possession and, through purchasing bonds, has turned his purchasing power over to others who have used it as a means of livelihood while they worked at the construction of a new factory building, or some other piece of industrial equipment. Through the necessary assistance this man has rendered in the construction of the building, he has assisted in increasing the size of the heap from which are drawn the goods he buys with his interest payments. On the other hand, careful analysis may show that some incomes which apparently are earned actually are unearned.

Needless to say, many individuals in society are receiving unearned incomes in the sense in which we are using that term. These incomes vary a great deal in nature, but all have one thing in common—their recipients draw goods and services from the national heap without adding, through their personal efforts, goods or services of equivalent value.

#### INCREMENT AN UNEARNED INCOME

An increment in land value, from the third of the three viewpoints being discussed, is a purely unearned income. If the increment is a real social increment, it does not result from any personal effort, either physical or mental, on the part of the recipient. By definition, a social increment is not the result of any improvement on the land. And yet, when a sale takes place and an increment is realized, or when the annual rental received for the use of the land increases, the extra dollars thus acquired by the individual owner constitute purchasing power which can, and will, be used to take from the total product of society certain goods and services which the increment receiver wishes to consume. Nothing has been added to the national income by the individual in the capacity of a land owner, for it is being assumed that the physical properties of the land remained unchanged while the land was in his possession. As a land owner, he therefore has not assisted society in satisfying its wants, but he has acquired for his own use a portion of the product which society turns out during the year.

But, it may be asked, how can the land increase in value if the owner has not done something to it? Does not the mere fact of increased value prove that the owner has increased its productivity? In contrast with most other things, the land area of the earth is limited, that is, there are just



so many acres and, within very narrow limits, this cannot be increased. More important is the fact that the area of any particular *kind* of land is limited. Land has already been created, and when created its area has been fixed for all time. The productivity of a given kind of land can be increased by methods man has devised, and, incidentally, if man actually does increase the productivity of any piece of land so that it produces more economic goods than it did before, he is entitled to a payment for this service. However, the supply of land cannot be changed.

The price of anything which is absolutely limited in supply is determined by the highest amount any potential user is willing to bid for it. And so it is with land. The amount the owner can receive for it by way of a sale price, or as an annual rental for its use, is determined simply and solely by the amount the highest bidder is willing to offer him for it. No matter how high that bid, the supply, so far as that particular piece of land is concerned, will not be increased. Therefore, anything which increases any potential bidder's desire for a piece of land, or the amount he is able to pay for it, will cause the price the seller can get for it to increase, even though the land remains exactly the same in its physical properties. As has been stated, in a community where population is increasing and technical progress is occurring, the amounts being offered for these limited areas of land will tend to increase. This is what is meant when it is said that pure land values are unearned by the individual because they are socially created.

The unearned nature of a social increment in land value has been discussed at length many times. Far less specific and substantial has been the analysis of the social effect of the

private receipt of such an unearned income. In a general way, many writers have condemned the institution of private ownership of land on the ground that it enables a land owner to put into his own pocket something which not he, but the community as a whole, has produced. But, does the private receipt of the increment actually harm society? Does it take away something someone else has produced? Does it decrease the national income and the per capita living standards?

It has already been shown that land increments cannot be considered merely as "lucky finds." The person who finds something and then makes that thing available for society's use is in a different position from one who finds an increment in land value. The latter makes nothing available for society's use which society did not previously have. It remains to be seen in what way the private receipt of the increment actually harms society.

#### INCREMENT AN INCENTIVE TO SPECULATION

In the first place, the possibility of receiving the increment encourages speculation in land values and this, in turn, keeps those persons actively engaged in this speculation from doing anything which adds to the stock of commodities and services constituting society's total product. Speculation in land thus decreases our national income. If Mr. Smith is able to gain an income over a period of years by receiving land value increments, he can use this income to purchase things he desires during that period. This means that he is living and consuming without adding through his personal efforts to the stock of commodities society is turning out each year. He draws from society's income stream goods and services to the amount of the increment or increments he re-



ceives, but he does not put into the income stream goods or services of equivalent value. If the possibility of gaining a living through the increment were closed to him, and all other sources of unearned income were closed also, Mr. Smith would have to produce through personal effort goods and services which would add to the national income before he would be permitted to draw out any goods and services. Thus, by eliminating the possibility of getting a living through unearned income, many Mr. Smiths might be forced to produce goods and services which would constitute additions to society's income stream.

Secondly, private receipt of the increment encourages land speculation, which sometimes results in the withholding of land from use. The social waste involved in this cannot be calculated with any degree of accuracy. It is interesting to note the claim that from fifty to eighty per cent of the land area of the United States is being held out of use, although these figures are not meant to represent the actual resultant waste.<sup>15</sup> A table showing the percentage of the total land which is vacant in twenty-four cities in the United States discloses figures ranging from two per cent to seventy-five per cent, just one-half of the cities having in excess of twenty per cent vacant.<sup>16</sup> Some of this vacant land is, of course, publicly owned. Some of it, although listed as vacant, may be used for playgrounds or other similar purposes. Offsetting a portion of the waste accompanying this substantial amount of unused land are the socially necessary and desirable periods of non-use which sometimes accompany changes in the

purpose for which specific pieces of land are used.

Land speculation also may force into use land less suited for a specific purpose than is other land which is held out of use. It may be that in some cases urban residential sites are withheld from use so extensively as to force less desirable suburban sites to be used. It is also pointed out that the development of an outlying residential section, at the very time equally desirable and more centrally located residential sections are held out of use, incurs still another waste in the form of the longer streets, the car lines, the power lines, and so forth, which have to be constructed in order to get past the vacant tracts to the suburbs.

#### EFFECT OF SPECULATION ON NATIONAL INCOME

Not only does the speculation in land values which results from the private receipt of land value increments decrease the amount of national income, but it also causes a redistribution of that income among individuals in such a way that the person who receives the increment gains income, or goods and services, at the expense of all the other members of society. Just how this comes about must be noted carefully. Failure to do so has often led to an incorrect evaluation of the central theme of proposals to adopt a "single tax" or to nationalize property rights in land.

A hypothetical case may be used to demonstrate the redistribution of national income caused by the private receipt of the unearned increment. Mr. Jones bought a tract of land in 1924 for \$500,000 and sold it in 1929 for \$1,000,000, not having placed any improvements on the land in the meantime. Just what should be deducted from the \$500,000 increase in value before the social increment is found can-

<sup>15</sup> E. O. Jorgensen, *The Next Step Toward Democracy*, p. 20; R. C. Macauley, "No One Owns Land," *Independent*, 104:76 (Oct. 16, 1920).

<sup>16</sup> H. B. Dorau and A. G. Hinman, *Urban Land Economics*, p. 138.

not be discussed here. The items which possibly should be deducted, such as taxes, for instance, would be so unimportant that the entire \$500,000 can be considered, for the present purpose, an increment in value from the social point of view. It is assumed that no change in the price level occurred between 1924 and 1929.

Just how did the \$500,000 which Mr. Jones received as an increment affect the other members of society? The transaction must be considered as a whole in order to answer this question accurately. What Mr. Jones did in 1924 was to give up \$500,000 worth of purchasing power, that is, he refrained from consuming \$500,000 worth of goods and services which he had the power to consume. Between 1924 and 1929, Mr. Jones did nothing except hold the title to the tract. Consequently, in 1929 the tract had the same physical characteristics which it had in 1924. In other words, Mr. Jones personally did nothing during that period to increase the national product of food, clothing, furniture, and so forth. However, the scarcity value of the land having increased, Mr. Jones was given, in 1929, in return for his title to the land, \$1,000,000 worth of purchasing power which, it will be assumed, he spent for goods and services. Since the price level did not change during the period, Mr. Jones is now able to—and it is assumed he does—go out on the market and purchase just twice as many goods and services as he gave up in 1924, when he purchased the tract. In other words, he now draws from the national product or income two hats instead of one, which he refrained from consuming when he bought the tract; two automobiles instead of one; two suits instead of one; and so on. Although Mr. Jones has in no way increased the national income, he draws from that

national income twice as many goods and services as he refrained from drawing out in 1924. In doing this he has taken hats, shoes, clothing, automobiles, and so forth, which the rest of the members of society would have received had Mr. Jones not been permitted to take the increment in land value.<sup>17</sup>

#### SACRIFICE OF ECONOMIC GOODS AND SERVICES

It might be argued that the person who bought the tract from Mr. Jones in 1929 sacrificed the consumption of \$1,000,000 worth of commodities and services which he had the power to consume, and that, as a consequence, the extra goods and services received by Mr. Jones came from the buyer and not from all the rest of society. However, the buyer is not the real abstainer. He purchased the tract only because of its immediate or potential income-producing power. Individual buyers of the tract may go on refraining from consuming in order to buy the tract at higher and higher prices. But, assuming the prices paid for it are justified by the value of its potential product, just so soon as that tract is actually used for any purpose, the amount charged for its use will be the means of passing on to the rest of society the sacrifice of economic goods and services which the buyer has borne temporarily.

For instance, suppose that Mr. Brown purchased the tract from Mr. Jones and that Mr. Brown now leases the tract to someone who erects an office building. If Mr. Brown has been wise in his investment, the annual rental of

<sup>17</sup> Of course, just to the extent that decrements occur, this effect of the private receipt of increments is offset. But, as has been pointed out, in a community experiencing population growth and technical progress, increments are rather certain to more than offset decrements, leaving a net social increment to go into the hands of individual owners.

the land will yield possibly \$50,000, or five per cent on the capital sum. Mr. Brown will use this \$50,000 each year to buy goods to consume, and these goods and services which the rest of society is thus forced to do without are the real sacrifices society makes in order to turn over to Mr. Jones, the increment receiver, the extra goods and services he was able to consume in 1929 because of the increased number of dollars he had available for spending. Mr. Brown, the user of the tract, has temporarily borne this burden of consuming fewer goods, but he is compensated, and the burden is actually passed on to society in general through the prices its members pay for the use of the site on which the building has been constructed. The community as a whole, aside from Mr. Jones, has fewer goods and services to use, and goods and services lost by the rest of the community have found their way into the hands of the increment receiver.

The transaction could be traced through in other ways. It would be easy to see society's loss if Mr. Jones had purchased the tract from a city in 1924 and had sold it back to that city in 1929, the prices being as stated in the preceding illustration. Assuming a stable price level, the city in 1924 received less purchasing power for the tract than it had to give to recover the tract in 1929. Since it is being assumed that Mr. Jones did not add any improvements to the tract, the citizens, other than Mr. Jones, clearly had fewer goods and services to use, and Mr. Jones had more goods and services as the result of his receipt of the increment. When Mr. Jones buys the tract from an individual and sells it to an individual, the result is exactly the same, although not as easily seen.

In fact, the analysis may be simplified still further. The receivers of social increments in land values are in all

essentials exactly comparable to persons whom we might imagine to be endowed with the magic power of making every dollar received turn into two or more. If there were individuals in society who had discovered a way of causing dollars to give birth to other dollars, what would be the effect on the other members of society? In such a case the increase in the amount of money would cause an increase in the price level, enabling those in whose hands dollars did not increase by magic to buy less than they formerly could buy. On the other hand, the increased amounts of money in the hands of a few would increase their individual purchasing powers by amounts greater than the increase in the price level, and they would be able thereby to get and to consume the goods which the rest of the members of society are no longer able to buy.

#### CONCLUSION

In conclusion, it should be reiterated that increments in land values from the social point of view are unearned incomes, and that, whenever society permits any individual to live on an unearned income, the goods and services he consumes actually are taken, although indirectly, from the other members of society. The private receipt of social increments not only reduces national income by encouraging speculation in land, but distributes it in other ways than on the basis of productivity. It not only decreases the per capita standard of living by reducing the national income, but lowers the standards of some individuals in order to raise the standards of others. On such grounds rest the continuous and the vehement condemnations which for many years have been heaped upon the institution of private property in land.

It would be unfair to conclude this

survey without emphasizing the need for a great deal of factual research and theoretical analysis in the field. The concept "increment in land value" is still a hazy one and needs to be defined more accurately. Facts concerning actual land values and trends of land values need to be found and analyzed. The relation between the private receipt of the increment and the productive use of land remains to

be thought through in all of its ramifications. Answers to such problems, if they are obtainable, would afford the basis for discussions centering around the socialization of the increment, the "single tax," and the nationalization of land titles. From such considerations one is led to that group of baffling questions connected with vested rights and the whole institution of private property.

# Land Value Insurance: Its Organization and Its Operation

By H. H. RICHARDSON

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UNTIL recent years, one could insure almost anything against loss except that most important of all things, the land upon which we live. It was not because there was no need for such protection, but because the well-known principles of insurance had not been applied to this basis of all wealth.

When one purchases or mortgages a house and lot, the owner of the property or of the mortgage never fails to secure protection against loss caused by fire. For many years past, buyers of real estate have protected themselves against loss and expense of attacks on title by buying a Title Insurance Policy. Property owners have insured themselves against losses by hurricanes, earthquakes, rain, snow, frosts, and burglars.

It was not possible, however, until within the last decade for one to purchase a protective policy indemnifying a land owner against loss by depreciation in value over a period of years. The value of such protection to the land owner has been proved in many ways within this comparatively short period. In two sections of the country, the West Coast and the Middle and South-eastern states, the principle of land value insurance has been sufficiently applied so that the land-buying public now has the opportunity of requesting the seller, before purchasing, to furnish him with a land value insurance policy with the deed. Land which is sold "value insured" may be said to have the "stamp of safety" impressed upon it. With value and title insured, an

investor can consider himself fully protected against loss.

## EXPERIENCE TABLES

All types of insurance, whether they be life, fire, accident, or title, depend for safety to the policyholder and for profit and safety to the company issuing them upon what is known as "Experience Tables," and it is upon such tables that the premium rate is fixed.

Land value insurance went through years of research work before the first policy was issued. Many thousands of subdivisions were investigated and studied from coast to coast and the percentage of successes or failures ascertained. Analyses were made as to what caused success or failure; studies were made in many cities with regard to causes of growth or decline in real estate values and the effect of restrictions by owners of subdivisions, and by cities, in the way of orderly city planning and zoning. These, and many other studies as to what goes to make up "values," resulted in a great mass of information which, when properly compiled, listed over one hundred factors essential to establishing and stabilizing real estate values. It is from this basic information that a land value insurance company arrives at a premium rate which will be profitable to itself and reasonable in cost to the policyholders.

Like all other lines of legal reserve insurance, land value insurance companies are under the supervision of the insurance departments of the states



in which they operate. A stated percentage of premium income has to be set aside for the policyholders' protection. Such reserves are invested in securities which are stipulated by law and which are satisfactory to the insurance commissioners. Operating expenses and profits come out of that percentage of premiums permitted to be retained for such purposes. Land value insurance companies are required to make annual reports to the insurance departments of each state in which business has been done, and the company records are subject to inspection by state insurance examiners. It will thus be seen that land value insurance has received governmental recognition from many states as a sound economic business, based on tested and tried experience which constitutes a protection to which the buying public is entitled and of which it should avail itself.

In most of the states land value insurance companies are admitted under the miscellaneous clause of their insurance code. In one state this type of insurance has been specifically mentioned in the insurance law. Where it is not mentioned and where there is no miscellaneous clause, new legislation will have to be enacted in such states before companies will be permitted to operate. Seventeen of the states have already approved land value insurance and today it is operative in Alabama, Colorado, California, Florida, Georgia, Illinois, Louisiana, Michigan, Nevada, New Mexico, North Carolina, Pennsylvania, South Carolina, Tennessee, Texas, West Virginia, and Wyoming.

At the time of the writing of this article there are two companies actively engaged in land value insurance. It is conservatively estimated that by the end of 1930 they will have contracted for approximately one hundred million dollars of coverage.

All insurance is based on the law of averages, and land value insurance is no exception to the rule. Averages are determined by compiling facts from as large a number of cases as is possible and ascertaining the conditions surrounding those to whom or to which the facts relate. These facts are collected by the research department and are turned over to the actuarial department, which prepares tables from these data to show the risk rates of a given class.

It was stated at a recent convention of the International Congress of Actuaries that "to the ordinary man the profession of the actuary, requiring as it does a highly specialized technique, has always remained something of a mystery." The actuary has been able by calculations to achieve the apparently impossible, to harness "chance" and in some measure at least to clip the wings of "misfortune."

#### DEPARTMENTALIZATION OF BUSINESS

The operations of the company are divided into departments as follows:

*Appraisal and Research.*—This department makes a complete research and survey of the residential, business, and industrial sections of the cities in which policies are written. It studies population and development growth, geographical trend of urban and suburban developments, city planning, zoning ordinances, taxation, public utilities, building permits, banking and postal statistics, and building restrictions placed on properties by subdividers. It also appraises the properties submitted in applications for land value insurance and applies all data on file regarding the particular locality where the subdivision is situated.

*Actuarial.*—This department fixes the rate of premiums and the term of the policy of all applications. Its calculations are naturally based on a

study of the data furnished by the appraisal and research department.

*Financial.*—This department, in addition to handling the financial affairs of the company, also supervises the individual accounts with subdividers and other buyers whose property has been covered, collects the premium income and issues, and keeps record of the interim certificates and policies. It also investigates the financial and moral responsibility of all applicants for coverage.

*Agency.*—This department is under the control of a supervisor of agencies, who appoints all agents and coöperates with them in securing contracts with subdividers and individual applicants for insurance. The territory is divided as follows: districts comprising several states in charge of a district agent; states in charge of a state agent; cities in charge of a city agent.

#### METHODS OF OPERATION

There are various classes of land value insurance, such as the complete coverage for a subdivider of all lots in a subdivision; the coverage for an owner of an individual lot; and the coverage for suburban tracts well located and in direct line of development. The methods of operation in all three types are practically the same.

Before any business is solicited in new territory the research department makes a complete survey to see if it comes up to the requirements of the hundred and more factors necessary to make real value. Business is not desired in non-progressive cities with declining populations and real estate values, nor is it sought in cities dependent on one industry for their support and growth. Such cities too often are liable to reverses by reason of declines in demand for its products, falling off in prices, and so forth. Real estate values in cities without a

constructive city plan or well-enforced zoning ordinance are apt to be very unstable. Mortgage loans are more readily available where property values have been stabilized by a well-ordered city plan and zoning restrictions. The absence of such constructive plans causes many "blighted districts" in cities, resulting in lowered valuations and loss of confidence by the investing public.

When the owner of a subdivision is desirous of obtaining land value insurance, he makes application to the company on its standard form, which, with contracts, interim certificates, and policies, have all been approved by the insurance departments. The application is accompanied by a plat of the property, with price lists of lots; terms of sale; forms of purchase and sale contracts showing restrictions with regard to buildings; financial statement of developer, statement regarding the improvements, such as streets, sidewalks, sewers, water, and gas mains; electric lines already in or proposed, the method of completing and paying for these lines, extinguishing liens and encumbrances, if any, and abstract of title, if developer does not furnish to the purchaser title insurance. The application is also accompanied by a deposit.

The application and data are then turned over to the appraisal and research department, which checks up the list of lots with the plat. A personal inspection of the property is made by one of the company's expert appraisers to check up the improvements already made and those proposed, the relation of the property to the surrounding developments and its proximity to the city in which it is located. The facts thus secured are then checked with the data on file regarding the growth of the city in question to ascertain whether or not the property offered for insur-

ance is in the natural trend of residential development. Values of adjoining improved or unimproved property are then compared with the selling price of the lots to be insured. All of the data thus gathered are studied in connection with the hundred or more factors which enter into the making up of values, and a complete report is then turned over to the actuarial department whose duty it is to fix the rate of premium and the term of the policy, which term may be for a period of from five to ten years, according to the risk.

The application, accompanied by these reports and a report of the actuarial department, is then submitted for the consideration of the board of directors, who pass final judgment, either approving or disapproving the application. If the application is disapproved, then the applicant is so informed, and all documents submitted with the application are returned to him, with a check to cover the deposit. In the event the application is approved, the applicant pays to the company the balance of the first installment premium, which is based upon a certain proportion of the entire premium on the aggregate value of the selling price of the lots to be covered.

The developer furnishes to the company a complete list of the names and addresses of any purchasers who have already agreed to buy lots, to each of whom is sent a letter advising that the property is now protected against depreciation in value below the price paid, and the buyer is furnished with an interim certificate which guarantees to him a policy of insurance in the amount he paid for the lot. The policy is delivered when the purchaser has completed payment of the purchase money, thus acquiring legal title to the lot, and the company has received its premium.

The developer is furnished with a supply of descriptive pamphlets which he uses in connection with his sales campaign. As new sales are made the company is so notified and new buyers are furnished with interim certificates, or policies, in cases where cash is paid in full for the lot.

#### SERVICE TO DEVELOPER AND PURCHASER

Service is rendered to the developer by agents of the company, whereby the developers' sales force is instructed concerning the advantages and the protection offered by land value insurance.

Where lots are sold on the installment plan and the buyer is in arrears in his payments, the insurance company is notified. The company immediately writes him that unless payments are brought up to date and final payment completed he will lose protection. This has the effect of instilling in the mind of the purchaser the idea that he is buying property which is really worth the amount he is paying for it, and the confidence thus inspired makes him pay his installments promptly.

It will thus be seen that land value insurance has the effect of breaking down sales resistance for the developer. After a sale has been made, it is a distinct aid in collecting the deferred payments from the buyer whose desire is to secure his warranty deed and a policy of land value insurance.

In cases where a subdivision which is encumbered is being offered to the public, and improvements, such as streets, water mains, lights, and sewers, are to be installed and paid for with money received from the sale of the lots, the insurance companies require that this subdivision be trusteeed with a responsible financial institution. All money received from the sale of lots

is paid to the trustee. All mortgages must contain release clauses, releasing each lot by paying the proper percentage of the mortgage. The trustee shall retain sufficient money to pay for the release of the mortgage and payment of all improvements installed. This is an assurance to the buyer that the contract will be carried through. It also protects the insurance companies, as they are potential buyers of the properties at the values placed on them, including all contemplated improvements at the time the contract is entered into.

Land value insurance is a great benefit to the purchaser, as he is assured he has bought property which has been given the most scientific and analytical investigation; that the price paid is a fair one; and that he is protected against loss through depreciation in value after a determined number of years. At the same time, he is not prevented, if he so desires, from taking all profits that may accrue in the meantime, due to the enhancement of values, before the policy expires. The very fact that he owns "value insured" property enables him to dispose of it more readily. If the new buyer wishes, he may make application for increased coverage, which will be granted if, on appraisal, and on payment of the additional premium, it is found that the property has increased in value.

#### HOW CLAIMS ARE PAID

If at any time during the one-year term, set forth in the policy, during which loss may be claimed, the insured property shall have depreciated in value to a sum less than the maximum amount payable for any reason, other than is set forth therein, the insured, if he desires to establish a loss, shall convey to the company the property free and clear of any tax, mort-

gage, lien, or encumbrance by a warranty deed, together with a certificate or guaranty of title, or an abstract, showing he has an indefeasible title. On delivery of these documents, together with the policy, the company, being allowed sixty days for the examination of the title, pays to the insured the amount payable under the policy.

If any buildings have been erected on the lot before loss in value is claimed, the company has the two following options:

- (a) To pay the actual value, at the time loss is claimed, of the buildings, and, in addition, the amount payable under the policy, in which case the property is deeded to the insurance company.
- (b) The company will pay a sum equal to the difference between the actual appraised value of the land, at the time loss is claimed, and the amount payable as a loss by reason of depreciation in value, title to the land, and buildings remaining in possession of the insured—the actual value of the land and buildings to be determined by appraisers, one to be selected by the insured and the other by the company. The insurance commissioner of the state wherein the insured property is located will be requested to appoint a third appraiser when necessary.

While it is true that all purchasers of real estate believe their investment will advance in value, they are at the same time afraid of their own judgment, knowing that they are not thoroughly familiar with real estate values and always having in mind that they may lose part of their money through depreciation.

The cost of land value insurance is not by any means prohibitive, being regulated by the character of the risk as well as the length of the term of the

policy. Naturally, a shorter term imposes a higher premium rate, and vice versa. No policy is written for a shorter term than five years, or a longer term than ten years.

When an entire subdivision is covered, the premiums are paid by the subdivider and the policies are furnished at no expense to the lot buyer. The premiums are paid to the land value insurance company at the same rate of percentage in which the purchase money is received. If, however, a lot is sold for all cash, then the full premium is paid for the policy, which is delivered with the deed.

If the subdivider, selling lots on deferred payments, gives a warranty deed on first payment and takes back a mortgage for the balance due, then the buyer is given his policy at the same time and the premium is then paid to the company in full.

#### EFFECT ON MARKET

The volume of business offered to land value insurance companies, but rejected for reasons due to inflated value, poor location, imperfect title, and so forth, has exceeded many times the volume of accepted business. Land value insurance has stabilized values. Experience shows that great inflation of values are brought about in times of so-called "booms," and when the boom collapses, as it always does, properties are sold below actual value. When an application for land value insurance has been investigated and approved by the company, it places upon such a proposition the "stamp of approval and safety."

Land value insurance companies only

negotiate with responsible real estate operators and subdividers who have real merit and who market worth-while properties.

The purchasing public, when educated to land value insurance, will only buy property that is insured. During boom periods, when prices of property increase beyond actual values, the insurance companies will refuse to insure, and some of the public naturally will refuse to buy. Property owners who have insurance will not become panicky and offer their property for less than its real value.

The unthinking critic very often asks: "Why is it necessary to insure value of land that is good?" A simple answer to this question might be the following: "Only good land can be insured because insurance of itself could not establish value." This can be readily understood if we apply the same principle to any other form of insurance. A fire insurance policy of itself will not make an extra hazardous risk fireproof: a policy of health insurance does not restore the physical fitness of an individual. It is only possible to write insurance of any description on worth-while subjects. There is no commodity that is dealt in so extensively as real estate, or which is open to so much discussion as to its fair valuation. Heretofore, little or no effort has been made to evolve a method of valuation that may be accepted by seller and buyer as being fair to both. With the advent of land value insurance much of this difference of opinion has been eliminated. It must act as a medium of better understanding between buyer and seller.



# Commonly Accepted Evidences of Real Estate Value for Purposes of Taxation

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SO long as governments need revenue, assessment of real estate for taxation purposes will be a subject of much general interest. Its importance in providing revenue may be gleaned from the estimate of one well-known appraiser<sup>1</sup> that real estate constitutes the base of from two-thirds to four-fifths of all local and state revenues in the United States. In fact, real estate constitutes, directly or indirectly, a very large part of the base under the Federal inheritance, Federal income, and state inheritance taxes.

Perhaps, then, it is not too much to assert that there is no aspect of real estate that commands more general attention than its use as a base for levying taxes; neither is there a problem in the field of real estate which needs more current consideration than the problem of ascertaining the most practicable and intelligent basis for making assessments on real estate for tax purposes. The mere fact that "full cash value" is used more frequently than any other term to denote the basis employed for assessment neither invests it with meaning nor qualifies it as the best basis.

Although no attempt will be made in this article to ascertain the best basis for real estate assessment, a survey of the assessment bases used and evidences of value considered in the determination of taxable value will serve to point out what few persons appear to

discern, namely, that discriminatory assessments may be, and very likely are, inherent in the ill-defined basis employed.

## EVIDENCES OF VALUE PRESCRIBED IN STATUTES

Assessment<sup>2</sup> bases are authorized by statute. These are many and varied in interpretation. A survey reveals that twenty-one different terminologies are employed; it also discloses a wide range in the number of states adopting a particular basis. The statutory bases of the several states are presented herewith in tabular form.

Description of the terms used to denote the assessment bases is set forth in the statutes of all states except Colorado, Delaware, Florida, Maine, Maryland, Massachusetts, Missouri, New Mexico, New York, Rhode Island, Vermont, and the District of Columbia. According to the definitions given in the statutes of the other states, certain evidences of value are to be utilized by assessors in arriving at the taxable value of property.

Among the commonly accepted evidences are: the price the property would bring at a private or a voluntary sale; the amount at which a property would be taken in payment of a just

<sup>2</sup> By "assessment" is meant the value assigned to real estate by duly appointed officers, which value is used as the basis for determining the tax that shall be paid by each individual property owner.

<sup>1</sup> Zangerle, John A. *Principles of Real Estate Appraising*. Cleveland: Stanley McMichael Publishing Co. (2nd ed., 1927), p. 21.

Alaba  
Arizon  
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## CLASSIFICATION OF STATUTORY ASSESSMENT BASES \*

	Actual Cash Value	Full Cash Value	True Cash Value	Fair Cash Value	Full and Fair Cash Value	Fair, Reasonable Cash Value	Full, True, and Cash Value	Actual Value	True Value	Just Value	Intrinsic Value	Full Value	Full and Fair Value	True and Full Value	True and Actual Value	Present, True, and Actual Valuation	True Value in Money	Full and True Value in Money	True and Fair Value in Money	Fair Market Value	Actual and Full Cash Market Value
Alabama						x															
Arizona		x																			
Arkansas									x												
California		x																			
Colorado		x																			
Connecticut																x					
Delaware		x															x				
Florida		x																			
Georgia		x																		x	
Idaho																					
Illinois				x																	
Indiana							x														
Iowa								x									x				
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New York												x									
North Carolina																					
North Dakota														x			x				
Ohio																					
Oklahoma				x																	
Oregon			x	x																	
Pennsylvania								x													
Rhode Island					x												x				
South Carolina																					
South Dakota																		x			
Tennessee	x																				
Texas																		x			
Utah		x																			
Vermont									x												
Virginia																				x	
Washington															x				x		
West Virginia																					
Wisconsin												x									
Wyoming																					x
District of Columbia																					

\* In some instances, it was difficult to ascertain the basis used, especially where the statutes contained several terms; but where difficulty was experienced, communications from the Tax Commission and reference to the Assessors' Manual of the particular state served to clarify the basis employed.

debt due from a solvent debtor; the cash consideration which can be commanded in the ordinary course of business; and the price which can be realized in a "willing buyer, willing seller" transaction. In some states, the earning power and other considerations are recognized.

In many cases, several of these evidences of real estate value are employed to establish the meaning of a

single assessment basis. For example, the Georgia Code <sup>3</sup> expresses the intent and the purpose of the tax law as follows:

To have all property and subjects of taxation assessed at the value which would be realized therefrom by cash sale, as such property and subjects are usually sold, but not by forced sale thereof.

<sup>3</sup> The Georgia Code (1926), Sec. 1004, p. 223.

Idaho's legislators provided that the "full cash value" of real estate should be established by determining what the property would be worth were it taken in payment of a just debt due from a solvent debtor, or were it sold at a voluntary sale in the ordinary course of business. The act governing assessments also requires assessors to consider a property's earning power when put to the same uses to which property similarly situated is applied.<sup>4</sup>

The Iowa law provides that in arriving at the "actual value" of real estate the assessors shall consider the property's past, present, and prospective productive and earning capacity, if any; its market value, if any; and all other factors which might affect its value.<sup>5</sup> The Michigan law stipulates that the usual selling price at the place where the property is located shall be an evidence of its "true cash value"; and such "usual selling price" is defined as the price which can be obtained at a private sale and not at a forced sale.<sup>6</sup>

#### VARYING EVIDENCES OF VALUE

It is worth noting that not all states which stipulate a specified assessment basis employ the same evidence of value. Analysis of the assessment bases previously enumerated reveals that New Hampshire, South Dakota, and Texas designate the "full and true value in money" as the basis for assessments. Whereas the New Hampshire<sup>7</sup> enactment states that the just debt, solvent debtor formula is to be em-

ployed, the Texas<sup>8</sup> and the South Dakota<sup>9</sup> laws instruct assessors to ascertain the usual cash selling price at the time of assessment.

In defining "true cash value," the Nevada statute states that a property shall be appraised as if taken in payment of a just debt due from a solvent debtor.<sup>10</sup> Oregon<sup>11</sup> recognizes as evidence of the taxable value of property the earning power and the price which the property will yield at a voluntary sale, while Michigan<sup>12</sup> adopts the voluntary sale idea, but requires assessors to evaluate all natural advantages and disadvantages.

Close scrutiny of the statutes reveals that any one evidence of value is an element in defining several assessment bases. The price which a property will bring at a private or a voluntary sale is an acknowledged evidence of value in determining the "fair and reasonable cash value"; "full cash value"; "true cash value"; "fair cash value"; "full and true cash value"; "true and full value"; "full and fair value"; "actual value"; "actual cash value"; and "full value."

Sometimes the same idea has been expressed negatively in the expression "not at a forced or an auction sale." This expression is incorporated in definitions of "full cash value"; "true value"; "present, true, and actual value"; "fair market value"; "full and true cash value"; "true value in money"; "actual cash value"; "true cash value"; "true and full value";

<sup>8</sup> Revised Civil Statutes, Texas (1925), vol. II, Art. 7149, p. 2069. Acts, 1876, p. 275; G. L., vol. VIII, p. 1111.

<sup>9</sup> The South Dakota Revised Code (1919), Sec. 6666, p. 1619.

<sup>10</sup> Revised Laws, Nevada (1912), vol. I, Sec. 3622, p. 1048 (March 23, 1891, 135).

<sup>11</sup> Or. L. Sup. (1927), Pt. I, Sec. 4268, p. 462 (L. 1925, e. 113, p. 167).

<sup>12</sup> Compiled Laws, Michigan (1915), vol. I, Sec. 4021 (Ch. 83, Sec. 27, C. L. '97, 3850).

<sup>4</sup> Idaho Compiled Statutes (1919), vol. I, Sec. 3104, p. 884; R. C., Sec. 1646, subd. 5; Am., '12, c. 8, sec. 3e, p. 24; '13, c. 58, sec. 9, p. 178; reën. C. L. 133: 9.

<sup>5</sup> Code of Iowa (1924), Sec. 7109, p. 899.

<sup>6</sup> Compiled Laws, Michigan (1915), vol. I, Sec. 4021 (Ch. 83, Sec. 27, C. L. '97, 3850).

<sup>7</sup> Public Laws of New Hampshire (1926), vol. I, Ch. 63, Sec. 1, p. 254 (P. S. 58: 1).

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"full and true value in money"; and "true and fair value in money." The amount at which property will be taken in payment of a just debt due from a solvent debtor is adduced as an evidence of "full cash value"; "true cash value"; "full and true value in money"; "true value"; and "true and fair value in money."

The concept of market value, or the price at which property is usually sold in the ordinary course of business, is embraced in the definitions of "fair market value"; "actual value"; "actual cash value"; "true cash value"; "true and full value"; "true value in money"; "full and true value in money"; and "true and actual value." An explicit statement of the "willing buyer, willing seller" theory, namely, that the value of a property is the cash consideration which a person would be willing, and would expect, to accept for property if he were disposed to sell it, is embraced in the definition of "intrinsic value" only.

#### INDEFINITENESS OF STATUTORY TERMS

Viewed in this manner, the situation should impress us by the lack of perspective which has marked the thought of legislators in regard to assessments. It is apparent that there is little uniformity in the terminology, and even less in the meaning attributed to the terms used. Many of the statutory definitions even suggest that there is much uncertainty as to the meaning of the stipulated assessment basis. However, all appear to aim at establishing the price which a property would bring under the perfectly "natural" conditions of an unrestricted market. In a word, the exchange value is sought, but how to ascertain that value seems to be an open question.

Some statutes frankly depend on the assessor's judgment. For instance, the South Carolina statute, after stating

that the true value in money is intended to be the usual selling price on the usual terms of similar property at sales for partition under orders of the court, asserts that if there is no usual selling price the assessor shall list the property at what he honestly believes it would bring at a fair sale.<sup>13</sup>

#### ASSESSORS' MANUALS

Administration of reassessments is accomplished through the medium of tax commissions in forty-three states. In the remaining states, boards known by other names do this work. Several of these commissions and boards have endeavored to aid assessors in interpreting the statutes relating to the taxation of real estate. Such interpretation is rendered necessary and advisable by reason of the lack of training of most assessors and by their limited tenure of office.

Manuals of instruction have been prepared and distributed to assessors before the beginning of the periodic assessment. These guides range from single sheets containing excerpts from the statutes, and perhaps a caution that a penalty awaits assessors if they fail in the performance of their duty, to rather large booklets outlining the methods of appraisal in current use. Some are serious attempts to formulate rules and to provide the mechanics for securing an equitable assessment, while others indicate that the administrative officers rely on forms. In general, it may be said that manuals with specific formulae are not the practice.

One of the most carefully prepared manuals<sup>14</sup> sets out a schedule of factors involved in determining the value of buildings. Scales of reproduction costs

<sup>13</sup> Code of Laws of South Carolina (1922), vol. III, Ch. XIII, Art. XI, Sec. 6, p. 183.

<sup>14</sup> *Manual for Instruction of Assessors*. Issued by Thorstein H. Thoresen, State Tax Commission, Bismarck, North Dakota.

based upon a detailed classification of building material types, as well as depreciation tables, are given. According to the manual, the "full and true value" of land is to be ascertained by determining its market value based on sales in normal times only. Assessors are specifically enjoined from assessing land on its economic value and are cautioned to ignore sales at inflated prices. What the index of normalcy shall be is not set forth.

#### THE MINNESOTA ASSESSOR'S GUIDE

An interesting *Assessor's Manual* is issued by the Minnesota Tax Commission. A remarkable feature is the importance ascribed to the most advanced appraisal methods. Tables of construction costs and mechanical methods for securing uniformity of valuations are discussed at greater length than is usual. For the most part, it consists of a series of indexed questions and answers relating to the tax laws. These are so arranged that if an assessor desires to ascertain the rule governing any specific case he may readily locate the proper section of the law. Among the sections indexed is one relating to the determination of land value. Evidences of value which should be employed by the assessor are enumerated.

As in the North Dakota guide, the use of recent sales is advocated. However, this is not the sole criterion afforded, for assessors are advised that in some cases land values may be fixed from the actual or the potential rental value of the land.

When neither of these measures is available, the assessor must establish values, and in doing so it is suggested that he confer with real estate dealers or others having knowledge of land values.<sup>16</sup>

The Tax Commission further in-

<sup>16</sup> *Assessor's Manual, Including Assessment Laws* (1918), p. 14. Issued by the Minnesota Tax Commission.

structs that it is good practice on the part of the assessor to avail himself of whatever information relative to values he may be able to obtain from persons of sound and dependable judgment.

#### THE COLORADO MANUAL

The manual compiled and printed by the Colorado Tax Commission is, perhaps, more detailed than any other in its statement of the evidence which may be used to arrive at the value of taxable property. According to this manual, the guide to "true value" is a property's market value. The purchase price paid, if the property is sold under ordinary conditions, is the measure of its market value. If there is no well-established market value,

the price it would bring at a fair voluntary sale . . . the value of the use thereof, and the capability of use, together with any just method of determination, may be considered by the assessor.<sup>16</sup>

Asking-prices, and the true considerations in deeds, are mentioned as instruments useful in determining the value of property. In addition, assessors are advised to keep an accurate record of all real estate transfers in their counties, as well as of trust deeds and mortgages, and to examine the county records for the appraisal of estates.

West Virginia's Commission instructs assessors that

in aiming at the true and actual value of buildings on lots the assessor should obtain, if possible, the cost of construction of such buildings, the annual rental received by the owner, if rented, and the sale price of adjoining property in the same block or on the same street.<sup>17</sup>

<sup>16</sup> *Instructions to County Assessors*, p. 4. Compiled and printed by the Colorado Tax Commission.

<sup>17</sup> *Instruction to Assessors* (1925), p. 35. Prepared by Grant P. Hall, State Tax Commissioner, West Virginia.



City and town lot values are to be determined from the per front-foot sale price of the lots without buildings or improvements.

The manuals of North Dakota, Minnesota, Colorado, and West Virginia are cited because they are representative of the best attempts to give the assessor the tools with which he may work. Nevertheless, there is considerable variety in the evidences stipulated.

#### EVIDENCES OF VALUE ADVOCATED BY COMMISSIONS

It is difficult to generalize on the evidences of value suggested in the handbooks provided for assessors. In the first place, there are few such instruction sheets which make more than a pretense at analysis of the factors entering into land or improvement values. In the second place, the manuals that specify evidences of value, which may be utilized by assessors, show little effort to evaluate the importance of each evidence.

If there is one evidence of value commonly accepted by tax commissions, it is the sale price. But "sale price," as used, is susceptible of interpretation. Some specify that the sale price must be the price actually paid for the property; some will admit as evidence the selling price of similar properties; others insist that "normal" sale prices only may be accepted as an evidence of value.

Similarly, when rentals are accepted as an evidence of value, variation in practice exists. Some tax commissions stipulate that rents received shall be evidence; others consider prospective rentals. Few designate whether net or gross rentals are contemplated. Relatively few stress the use of asking-prices or records of transfers and encumbrances as evidences. In regard to building appraisals, most commissions advocate a "reproduction, less depre-

ciation" basis. In most instances, assessors are urged to use their best judgment in seeking to determine from the many conflicting evidences of value a conservative intermediate value, with due regard to general values.

#### JUDICIALLY RECOGNIZED EVIDENCES OF VALUE

At various times the judiciary has been called upon to pass on the legality of specific assessments. In determining the issue in question, criteria of value have been established by the courts and certain evidences of value admitted as competent.

Generally speaking, courts are in accord on the proposition that assessments should be made on the basis of the actual worth or fair market value of property,<sup>18</sup> unless otherwise directed by statute. In defining the market value, courts have demonstrated a preference for what might be called a "willing buyer, willing seller" theory of value; that is, they have sought to determine the price which the property under consideration would bring in a market wherein there are willing sellers and willing, able buyers of property like that to be assessed.<sup>19</sup> Underlying this theory is the presumption of complete agreement and equality of position of the parties.

Citation of a few cases, although there is no intention to deduce generalizations from them, will indicate that sale prices have been admitted in

<sup>18</sup> *People v. Barker*, 146 N. Y. 304, 40 N. E. 996 (1895); *Turnley v. Elizabeth*, 76 N. J. L. 42, 68 Atl. 1094 (1908); *Coal Co.'s App.*, 43 Pa. C. C. 1 (1915); *Kemble's Estate*, 280 Pa. 441 (1924); *Arlington Mills v. Salem*, 140 Atl. 163 (1927); *Hawkeye, Portland Cement Co. v. Madison*, 127 N. W. 837 (1928).

<sup>19</sup> *Union Investment Co. v. Harrison County*, 67 Miss. 614 (1890); *Metropolitan Bldg. Co. v. King County*, 62 Wash. 409, 113 Pac. 1114 (1911); *Peo. v. Dowd*, 206<sup>2</sup> App. Div. 727, 200 N. Y. S. 500 (1922).

specific instances to determine the propriety of given assessments. In *Adams Express Co. v. Ohio State Auditor*,<sup>20</sup> it was pointed out, as a cardinal rule, that whatever property is worth for the purposes of income and sale, it is also worth for the purposes of taxation. Indeed, one annotator has observed that where similar property is commonly bought and sold the price which it brings is the best test of the market value of the land under consideration, and assessors need look no further.<sup>21</sup>

Sales of similar land, or lands similarly located, at about the same time, and not under forced sale, may be shown as partial evidence of the market value of the lands in question. On this, authorities appear to agree.<sup>22</sup> Not only the sale prices of similar properties, but also the price paid by the present or any former owner, have been considered as competent evidence.<sup>23</sup> In at least one state, however, if the sale price is to be qualified as an evidence of value it must represent the highest price that can be obtained in a fair market.<sup>24</sup>

#### NATURE OF SALE PRICE

Prices paid at public sales, as well as those at private sales, have been considered as indicators of value. For example, in *Colwell v. Abbott*,<sup>25</sup> the amount that property taken as a whole would bring at fair private sale was recognized as a good criterion of its value. On the other hand, it has been held that a sale of land at public auc-

tion is an evidence of the property's value.<sup>26</sup>

Even though a property had been put up for public sale on two occasions after due advertisement at a specified sum, without drawing a purchaser, testimony to that effect was considered to have provided some indication of the property's market value;<sup>27</sup> likewise, the holding or asking-prices of other properties similarly situated may also be shown. In an instance where real estate did not have a market value, assessors were permitted to consider the price it would bring at a fair, voluntary sale and to adopt other just methods in determining the taxable value of property.<sup>28</sup>

Another evidence of value which has been considered in ascertaining the taxable value of property is rental received, or provided for, under a lease. According to a New Hampshire case, *Atlantic & St. Lawrence R. Co. v. State*,<sup>29</sup> the rent which a lessee promised to pay was regarded as evidence, although not conclusive proof, of the market value of the property at the date of the lease.

In *State, Hurd v. Cook*,<sup>30</sup> the court, while asserting income as a criterion of value is peculiarly inappropriate in taxing mining lands, admitted the yearly rental of premises might be regarded as an element in ascertaining the value of a property if the property is so situated that such yearly rental reflects its true value. In another case<sup>31</sup> an assessor, upon learning of the existence of a

<sup>20</sup> 166 U. S. 185, 220 (1897).

<sup>21</sup> 26 R. C. L., p. 365.

<sup>22</sup> *Finch v. Gray's Harbor County*, 121 Wash. 486, 209 Pac. 833 (1922).

<sup>23</sup> *Cochecho Mfg. Co. v. Strafford*, 51 N. H. 455, 477 (1871).

<sup>24</sup> *Winnepiseogee Lake Cotton & Woolen Mfg. Co. v. Gilford*, 67 N. H. 514, 517 (1893).

<sup>25</sup> 42 N. J. L. 111, 115 (1879).

<sup>26</sup> *Dickerson Suckasunny Min. Co. v. Randolph*, 25 N. J. L. 427 (1856); *Kacmerling's Appeal*, 282 Pa. 78, 81 (1925).

<sup>27</sup> *Appeal by Pennsylvania Co., etc.*, 282 Pa. 69, 127 Atl. 441 (1925).

<sup>28</sup> *R. Co. v. Hanna*, 73 Colo. 162, 172, 214, p. 550 (1923).

<sup>29</sup> 60 N. H. 133, 143 (1880).

<sup>30</sup> 60 N. J. L. 70, 71 (1897).

<sup>31</sup> *Woodburn v. Skagit County*, 120 Wash. 58, 206 Pac. 834 (1922).

hunting lease, increased the property's valuation; and his action was sustained.

#### IMPROVED STATUTES NECESSARY

At this point it would be appropriate to observe how unsatisfactory are the evidences of value most commonly used. However, another article<sup>32</sup> in this series is devoted to the demonstration of the inadequacy of the sale price as an evidence of value, and it is therefore unnecessary to discuss it here. Nevertheless, this opportunity to direct attention to the need for a well-conceived device for discovering the relative importance which the community attaches to certain locations cannot be allowed to pass.

Despite the attempts of legislatures to establish a concept of value, so much opportunity is allowed for the subjective opinion of the individual assessor that practically all the definitions of value now used in the statutes tend to become vitiated, and are therefore unenforceable. In general, it is safe to say that such units of measurement and procedure as are presented are clearly impossible of application by large numbers of persons, distributed over wide areas. At best, the formula, if such it may be called, given each individual assessor is both vague and impractical.

It is obvious that emphasis must be placed upon the task of improving the statutory provisions with respect to the basis of assessment. Some organization might profitably direct its efforts to the task of sifting the diverse evidences of value generally employed, and ascertain which, if any, may be useful. When this has been accomplished, the organization in question might address itself to the problem of incorporating in a model statute the basis determined upon as ideal. A necessary feature of the work of such an

organization would be the development of a course of instruction for assessors so that they might make uniform and sane use of the basis provided.

#### RECENT IDAHO STATUTE

Perhaps a recent legislative enactment will point the way to more precise statements of the procedure to be used by assessors in arriving at the assessable value of real estate. In the 1929 session of the Idaho legislature the section<sup>33</sup> of the Compiled Laws relating to the "criteria of value" was amended by the terms of Chapter 201.<sup>34</sup> The amended provision reads:

The assessor may as far as practicable ascertain the value of each parcel of real estate and the improvements thereon listed for assessment purposes in accordance with such values as the resident taxpayers in any designated community place upon such assessable property, and each assessor is hereby empowered to require by written or oral request the attendance of the resident taxpayer in any community, the area of which shall be fixed by such officer, at a meeting to be held within such community. The assessing officer shall preside at such meeting, and he is hereby authorized to administer an oath to each person present to the effect that each affiant will, according to the best of his ability, give correct answers to all questions propounded to him touching valuations and classifications of real estate within such community. If the assessor finds and believes that the consensus of opinion of the resident taxpayers on valuations and classifications are the true valuations and classifications, the assessor shall place an assessed valuation on each piece of property and the improvements thereon, and classify the same in accordance with the consensus of opinion of such resident taxpayers.

Clearly, the intent is to obtain an appraisal which will reflect the opinion of the community. In respect to its

<sup>32</sup> See the article by Karl Scholz in this volume.

<sup>33</sup> (1919), vol. I, p. 885.

<sup>34</sup> 1929 Idaho Session Laws, pp. 390-91.

provision for community meetings, the Idaho statute is unique. The legislatures of other states may well follow the precedent of this statute. Indeed, they may go much further. Such meetings may well be used to determine the quantity unit values from which the values of individual sites may be determined. Assessors should be required to value land and improvements separately. They might also be required to classify buildings and devise rules for depreciating the buildings assessed.

#### CONCLUSION

A recapitulation of the material submitted reveals several significant facts. That there is a lack of agreement in respect to the term that shall be used in statutes to describe the present value of taxable property cannot be denied. Moreover, it is apparent that such statutory bases as are stipulated lack meaningful definition. But, in so far as interpretation of the statutory base is attempted, the sale price of the particular property or of other similar proper-

ties is generally accepted as an evidence of the value of the real estate subject to assessment.

By some description, sale prices have been prescribed in statutes, advocated by tax commissions, and judicially recognized in many instances. When there is no well-established market for properties of the type to be assessed, evidences of value other than the sale price have been considered. Courts have admitted capitalized rentals as some evidence of value; and tax commissions have urged assessors to take note of existing leases and the rentals paid under such leases. In some statutes and manuals, assessors are commanded to take cognizance of the earning power of property.

Each of these evidences of value is useful under given circumstances; but, in general, these evidences do not reflect a true community opinion of the exchange value of real estate. Statutes must be devised which will establish some procedure for the determination of such a community opinion.

# A Scientific Approach to Real Estate Valuation

By WALTER W. POLLOCK

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**A**LL value is relative. Therefore, in the attempt to approach the problem of valuation on a scientific basis it is essential that the appraiser should use methods which will accurately measure this relativity.

The uses of urban land for business, residential, industrial, and other purposes, are fairly well standardized in American cities. By comparison of the use values of different street frontages, it is not difficult to establish relative valuations of all land frontages in an urban community, and this comparison can be extended so as to show the definite value relations existing between street locations in different cities, no matter where they may be located.

## UNIT BASIS OF VALUATION

Determination of street valuations on a unit basis, in which uniform units of quantity are appraised for all frontages, furnishes a yardstick for definite comparisons of all such frontage values. By the use of uniform computation formulae it is possible to make accurate comparisons between the similar factors in all lots of depth, frontage, corner, alley, railway, waterway, or other enhancing influences, and to determine these value effects relatively. The unusual factors pertaining to land valuation which remain—if there are such factors in individual lots—may then be separately judged in their effects upon valuation.

On the same principle, it is possible to appraise improvements upon land at the standard of reproduction cost new, and to deduct depreciation so as to measure accurately the loss of use

value due to all depreciating factors, thus determining values for buildings on a comparative basis.

This process permits, and indeed requires, the consideration of the effect of all the conventional data for appraising values—sale prices, rentals, the effect of restrictions, the effect of supply and demand, the so-called market value, the "willing buyer, willing seller" ideal, and so forth. A certain area of land of a certain size and shape, with a certain utility, and with a certain relation to street frontages of like valuation, will have the same valuation as another lot in which all these conditions are identical. Any variation in any factor will cause a relative variation in valuation, and this relation may be definitely demonstrated. The market costs of building materials and labor, compiled from reliable sources, will enable appraisers accurately to determine the new reproduction costs of buildings; and an intelligent judgment of the basic factors of accrued depreciation, which may be generally described as (a) mechanical deterioration, (b) obsolescence, and (c) lack of utility, will take into consideration all the normal factors relating to valuation.

The foregoing statements may be regarded as conclusions which the writer has arrived at through experience in the appraisal of real estate. If he is correct in arguing that the valuation of land and buildings can be best arrived at by the use of definite comparative methods, it must then be desirable to search for such methods, if they have already been devised, or, if they cannot be found, to invent them.



Instead of passing laws which set up such idealistic and partial definitions as "true," "market," "cash," "selling" values, the words "relative" or "comparative" will be found to describe more accurately the process of scientific valuation. Either or both of these words can well be used in amplification of the customary idealistic terms, and in the case of real estate assessment they will be found to furnish a satisfactory substitute.

#### SYSTEMATIC VALUATION OF PROPERTY

Under modern conditions, there exist so many phases of the phenomenon "value" that the attempt to reduce the process of valuation to a systematic or a scientific basis is regarded as most difficult. There are so many special points of view, as illustrated by the special interests of various persons or classes of persons, that it is impossible completely to harmonize those interests with the numerous conventional concepts of value.

Before organizing a plan for the systematic valuation of physical property of any description, it is necessary to discover something fundamentally important and inherent in circumstances relating to value. That the business world has not yet found a basis for agreement as to sound, systematic bases for valuation is evidenced by the great fluctuations of prices of commodities and securities. That the Federal Government and the courts have not yet reached a workable concept of value and methods of valuation is shown by the long-debated, never-determined effort to establish the "fair value" of the railroads and other public utilities as a basis for service rates.

This uncertainty on the part of governmental agencies is also illustrated in the long, drawn-out discussions and the arbitrary decisions relating to property valuation and depreciation by the In-

ternal Revenue Bureau in the adjustment of income taxes. In the local administrative field there are various unscientific, legalistic theories propounded for the valuation of property taken under condemnation proceedings for public use; and in the assessment of real estate for purposes of taxation there are almost as many theories of appraisal as there are assessors.

These uncertainties of thought in relation to value and valuation constitute one of the most important of our modern problems. They offer many opportunities for the oppression of the politically weak by the powerful, and for the destruction of those who are powerful by those who are more powerful.

In the original Supreme Court dictum that the railroads are entitled to charge for service rates so as to yield a fair return upon the fair value of used and useful property there was expressed a definite ideal which, it was hoped, would establish justice for all those interested; but many years have passed, and we seem to be as far as ever from accomplishing that ideal, because we have not yet been able to crystallize the ideal on a factual basis. Senator La Follette believed that railroad values could be determined only on a legal basis, but the debate over the facts relating to railroad valuation has continued for nearly twenty years, without satisfactory conclusion or definite plans for evolving out of the confusing factual claims a working theory in accord with the legal ideal.

#### WILLING SELLER, WILLING BUYER MAXIM

The various states carry upon their statute books various idealistic dicta relating to valuation. There is the maxim of the willing seller and the willing buyer which represents a fine idealistic concept of value, notwithstanding

the fact that in actual practice there are almost no willing sellers and no willing buyers. The self-interest of sellers and buyers causes each to oppose the other for the utmost of high or low price; and if a transfer of real estate should unexpectedly be concluded on a mutually agreeable basis it will almost always be found that the mutual willingness is caused by some other circumstance than price. Again, there is the extralegal maxim to the effect that everything is worth what one can get for it.<sup>1</sup>

Among the idealistic statutory attempts at a definition of value for real estate are: (1) true value in money; (2) full cash value; (3) fair market value; and (4) the assessor's opinion as to fair selling value.

There is a wide gap between these well-meant theoretical descriptions of the goal of valuation and the facts and circumstances relating to valuation. Because assessors and taxpayers are often unacquainted with the discrepancy between the valuation theories and facts, these theories are seldom satisfactorily fulfilled in actual appraisal work. Each assessor and reviewer follows his own route. Each may view upon a distant banner an idealistic legend, but few, if any, arrive at that destination, because they do not know the proper route to follow.

President Hoover has appointed numerous lay commissions unofficially to consider various economic, social, and governmental phases of American life, and out of such investigative efforts there will undoubtedly come information which should have the effect of harmonizing hypothesis with fact. There is no more fertile field for such systematic inquiry than that relating to valuation. Such an investigation, balanced between hypothesis and fact, might bring the two nearer to one another

and might throw much needed light upon the whole question of valuation.

#### LEGAL THEORIES VERSUS FACTS

As a professional appraiser, with more than thirty years' experience, in many contacts with administrative governmental officials, from Washington down to rural townships, whose duties related in one way or another to valuation, I have seldom met one who was not in a state of confusion over the difficulty, if not the impossibility, of complying with the instructions of law relating to valuation, and at the same time appraising values in accordance with facts. These public officials are charged with the responsibility of performing a technical act, under the limitations of incomplete statutory directions, without adequate tools or guides. Many of them realize their situation, but few have had the courage to face it, or to rebel at their legal fetters.

The first step in the direction of systematic or scientific land valuation is to appreciate that there is a more or less definite relation between total population and total real estate valuation. At the present purchasing power of the dollar I have found that, eliminating speculative prices, the per capita valuation of land in a number of average American communities is about one thousand dollars; and of buildings, after deducting liberally for depreciation from present new reproduction costs, in the neighborhood of twelve hundred dollars, thus making the total real estate valuation about twenty-two hundred dollars per capita. There may be variations due to special conditions, but in prosperous American cities under normal conditions this is not far from the fact. Of two communities which are approximately of the same general character, the total real estate valuation will bear a closer

<sup>1</sup>See the article by Karl Scholz in this volume.

comparison with total population than with total area. In a confined city the higher land valuation will overcome the disparity in acreage, where the same number of people are spread over a larger area.

In a number of cities where I have given assistance to assessors in the installation of systematic methods of revaluation of real estate for purposes of taxation, it has been possible to predict approximate total valuations before the work of appraisal was started. I believe that eventually the number of inhabitants in a city will be found to be the best and the most accurate basis for levying local taxes on real estate, and that this will also be found to be the most accurate basis for equalization between the several communities in a county or between counties in a state.

It would be altogether possible, for instance, for the Labor Government of England, which at this writing is believed to be contemplating the taxation of land values, first to determine the amount of land taxes to be collected, to allocate the tax by communities on the population basis, to appraise the separate parcels of land by systematic methods, and then to fix the tax rate so as to raise the amount of money imposed by the government. I am so confident of the equity of such a plan that I believe it would require but slight adjustment in rates as between rich and poor communities in order to be equitable as between communities. The equalization as between properties in each community could be accomplished by the use of systematic methods, which I shall briefly describe. These methods have been successfully used in many American municipalities under expert direction, and have also been applied less expertly by many local assessors who have lacked such assistance.

#### THE SOMERS SYSTEM OF APPRAISAL

The late William A. Somers was the originator of the first workable system for appraising land and buildings for the purpose of assessment. Of course, all valuers have vaguely had the idea that the valuation of one lot or parcel of land bore a relation to the valuations of other properties. Mr. Somers, as city engineer of St. Paul, Minnesota, assisted in the year 1906 in the revaluation of the real estate of that city, and was the first to recognize the fact that there exists a mathematical relation which may be accurately computed for comparison of one lot or parcel of land with another, based upon unit valuation judgment. He established a basis for comparing the value of one lot with that of another by computing the value effect of frontage, depth, corner, alley, railway, waterway, or other enhancing influences, but his is something more than a computing system because it has also established a basis for uniform expression of opinion or judgment of the primary element of urban site valuation—that of street accessibility.

Transactions in commodities possessing length, weight, and bulk are conducted by the expression of value opinion in terms of the yard, the pound, or the bushel, depending upon the character of the commodity. A dollar a yard, a pound, or a bushel may be an opinion or an offer to buy or to sell cloth, butter, or wheat at a price which may thus establish a market price, and the method of land appraisal employed by Mr. Somers is in conformance with this practice, expressing, as it does, value opinion on the unit price basis.

Market price or value in respect to land ordinarily lacks the conditions which relate to market prices of other commodities. When we talk of the market prices of stocks, bonds, wheat, or lumber, we discuss commodities

which are subject to exact duplication, both in quality and in uniform units of quantity, and for which there exists a definite demand and a ready market. None of these attributes pertains to land to the extent that they exist in other commodities.

If we think of units of quantity for city land, we usually think of front-foot or square-foot prices. Neither of these is a constant, uniform unit of quantity because lots vary in depth, and a front-foot price for one lot will not be relative to a front-foot price for another lot of greater or less depth. A square-foot unit price for a given lot is merely an average price for many square feet of different valuation. In using the square-foot unit, what one actually does is to estimate mentally the valuation of the entire lot and to divide by the number of square feet. The acre is uniform as to quantity, but cannot be accurately used without classification of qualities which may be numerous within a single acre.

#### UNIT-FOOT AS MARKET PRICE

The sound market price for urban land is the unit-foot. This unit of quantity, when appraised, represents opinion or judgment of the valuation in money of the accessibility or the usefulness of a single street or highway for one foot of frontage, with a depth of one hundred feet, or some other depth which may be conveniently and accurately applied in systematic valuation work. It is not strictly accurate to say that the unit-foot is a strip of land in the middle of a block, although there are many "inside" lots which illustrate the unit-foot because they have no other element or factor of accessibility than that from one street. The unit-foot represents sound market price because it is susceptible of duplication on all blocks within a city, and prices of all unit-feet may thus be ex-

pressed comparatively for an identical unit of quantity. Whether for commercial purposes or for taxation, the use of the unit-foot establishes an accurate relation for appraising uniformly the most important element of street accessibility, which may be appraised at its use valuation both individually and by comparison with all other properties which possess the factor of accessibility to, and usefulness from, streets in the community.

Unit-foot prices having been established by expert judgment and, in the case of assessment installations, confirmed or modified by public conferences of the assessors with taxpayers, the system of relative valuation is extended by the use of uniform computation methods. We know that all city lots have street or highway frontages, and in appraising the unit-foot for all block frontages we have established the valuation for all of them for one front-foot, one hundred feet deep. The next process is to compute the additional valuation of lots of greater depth, the lower valuation of lots of less depth, the enhancement, if any, due to location at, or adjacent to, street intersections (corner influence), and the enhancement, if any, due to alley, railway, waterway, or other influences. After this has been accomplished there is a further process—similar to the final fitting of a suit of clothes, in which the tailor looks for inaccuracies in his work.

Has the wholesale process produced a correct specific total valuation, and if not, what must be done to correct the inaccuracies? Among the things which an inspection of the property may disclose may be topographical irregularities in the land surface, which may detract from its usefulness and for which a special deduction should be made. One cannot make rules for unique conditions of this nature, and the effect of

such conditions in lessening valuation must be separately judged, just as special conditions which increase valuation beyond normal must be separately and specially judged. The total valuation of a lot or a parcel of urban land is the effect of separate analytical consideration of each element which contributes to, or detracts from, valuation.

#### DETERMINATION OF UNIT-FOOT PRICES

In the determination of unit-foot prices, it is apparent that the appraiser may and, of course, must, in order to make his valuations accurate, consider every factor which affects both generally and specifically the use value of land. There is no violation of any workable legal theory of value or valuation. Emphasis is placed on the establishment of a truly relative valuation for all land, based upon a factual appraisal of all elements connected with land valuation. If there are appraisal statutes which are inaccurate in concept and impossible of execution, they are always honored in the breach in the unsystematic appraisal. In a systematic appraisal the unworkability of dogmatic appraisal theory is exposed. If the judgment of unit-foot prices is inaccurate, and if the computation formulae do not "work out" accurately and uniformly, the specific valuations will be imperfect, both in general and in special instances. If the unit-price judgment is accurate and well-considered, and if the computations are accurately made, with special judgment correctly applied for abnormal conditions which are recognizable as such, then both relative and specific valuations will be accurate, and each taxpayer will pay his fair share of taxes—the only objectors to this state of affairs being the comparatively few persons who do not want to pay their fair share.

#### THE REPRODUCTION COST THEORY

In the purely legal field of discussion of valuation much time and agony of spirit has been given to the so-called "reproduction cost" theory. In the practical appraisal field, although all valuations of buildings, as well as of machinery and equipment, are first appraised at reproduction cost new, this valuation is seldom found to be the fair valuation. The practical appraiser of one or many properties first ascertains what the object to be appraised would cost new, as of the appraisal date, because that is obviously its maximum valuation at that time. If a building or a machine is worth less than the new cost, the lesser valuation can be determined by eliminating that part of reproduction cost valuation which, by reason of depreciating causes, no longer contributes to use value. If a building or other physical property should be first appraised at one hundred thousand dollars reproduction cost, the answers to the following questions will determine the percentage or amount to be deducted from reproduction cost in order to ascertain the present fair valuation:

- (1) What percentage or amount should be deducted for mechanical deterioration, based on present condition?
- (2) What percentage or amount should be deducted for obsolescence, as observed by an expert appraiser?
- (3) What percentage or amount should be deducted for the special lack of utility to the owner under existing use requirements?

If these factual questions are accurately answered, the present fair valuation for the use of any man-made property can be accurately deduced from the initial fact of reproduction cost new. The great pother over the reproduction cost theory could be eliminated by the enactment of a rail-



road valuation law which would insist upon a factual reproduction cost, less depreciation accrued in fact. Whether or not there is any merit in railroad valuation as a basis for service rates, there might be advantages along social and industrial, as well as economic lines, both to the railroads and to the public in knowing the actual use value of the railroads.

#### IMPORTANCE OF SYSTEMATIC APPRAISAL METHODS

I believe that the general adoption of systematic methods of valuation of real estate for all purposes is not only practicable, but of paramount importance. It is possible to establish, through systematic appraisal methods, a standardized valuation in each municipality, and also in rural communities, from which standardized valuation it is possible to plan intelligently for the future growth and development of the nation and its various subdivisions.

It is not so many years ago that, with the uptown rush of retail business in New York City, there were many blighted areas in the Fourteenth to Twenty-third Street district where the banks had loaned on mortgages to an amount far in excess of what many of the properties would realize if offered for sale. Zoning laws, which started in New York City to protect land values in the uptown business district, and which have spread throughout American cities, do not solve the whole problem. They operate, as a protective tariff is alleged to act, in stimulating prices of protected commodities, but some day it may be necessary to make real estate a public utility, and this should not come before the universal acceptance of the idea that systematic appraisal methods are practicable and necessary.

Real estate in many communities has been "dead" for a number of years.

The reason does not always lie in the lack of demand for real estate, but rather in the fact that during the housing shortage following the World War old houses were sold at high prices—higher than their use value—and these high prices now being beyond use value the present owners cannot get their money back to purchase newer and more desirable homes.

In the city of Philadelphia, the newspapers have published each month for the past year about one thousand foreclosure sale advertisements, mostly of homes which the purchasers cannot carry because they were purchased at higher than present use valuations. Real estate interests in most cities overstock their markets, but somebody pays in the end, and the sooner something is done by requiring analytical valuations for loan, as well as assessment purposes, the better for us all. The first remedial step should be along this line.

#### ATTEMPTS AT STATUTORY ENACTMENTS

Several bills have been introduced in state legislatures, notably in Massachusetts and in Pennsylvania, for the purpose of establishing analytical methods of valuation of real estate for taxation. These bills were not passed, but they created an active interest on the part of legislators, and the idea was freely expressed that such legislation was inevitable in the future. It is not now illegal for any assessor to analyze his valuations, but few assessors possess the technical ability to do so. In several states the state tax commissioners have urged the necessity of the employment of specialists to assist in systematic valuation. But, there will be no permanent advantage from the adoption of systematic assessment methods unless the idealistic statutory value definitions are supplanted or

supplemented by laws defining the specific acts of analysis, all of which are essential to a sound valuation of every property, specifically and relatively.<sup>2</sup>

Each assessor should be required to amplify the statutory maxim of "fair market value," or whatever phrase may be formulated by law for his guidance, by doing the following:

(1) Prepare unit-valuation maps, showing the block outlines of each city, as well as lot and block maps showing the dimensions of all sites.

(2) Record upon the unit valuation maps his judgment of the value of each single street, in terms of a price per unit-foot of land area. There should be provision for the publication of tentative street valuations and public discussion before final adoption.

(3) Prescribe or adopt uniform methods for the conversion of the unit-foot valuations, which are for a uniform depth, into front-foot valuations for lots which are so located that they are deemed to have usefulness derived from but a single street accessibility.

(4) Prescribe or adopt uniform methods for computing the value of lots affected by two or more factors of street accessibility or usefulness (at or near corners), with reference to the unit-foot valuations determined by the assessor, as well as with reference to the size and shape of the lots, and their relation to the street or streets.

(5) Prescribe or adopt uniform methods, so far as may be possible, for appraising and computing the effect upon valuation of secondary value factors, such as alleys, railways, waterways, and so forth.

(6) Apply special judgment to each lot to show the value effect of abnormal influences; by deducting from the com-

puted valuation the assessor's opinion of the loss of usefulness due to topographical irregularities, lack of utility, or other influences which may be deemed to lessen the actual usefulness; and adding for special influences the amount which the assessor may judge such influences to enhance the value of each lot, in addition to the normal valuation as computed.

(7) Record upon a card for each lot the lot and block number, the owner, the dimensions, the unit-foot valuations, the computations, and the special additions or deductions, if any, giving the reasons for such special additions or deductions.

(8) Record upon cards the measurements, the architectural characteristics, the factors of valuation of reproduction cost new, and the factors of depreciation of all buildings or structures.

#### ILLINOIS TAX COMMISSION'S RULING

So far as is known to the writer, the first official acceptance of the principles laid down in the foregoing paragraphs was the action taken by the Illinois Tax Commission, in 1928, in directing the assessors and the reviewers of Cook County (Chicago), under the provisions of rules fourteen and fifteen, to follow certain systematic methods of appraising and reviewing assessments.<sup>3</sup> These administrative rules have stood the test of court appeal, and this is, in my opinion, the most notable official effort that has so far been made to establish equity in assessments by compelling the use of uniform, systematic rules as a guide in valuation. These rules should be studied carefully by every student of land economics.

Other cities have voluntarily systematized their assessments, but their

<sup>2</sup>Elaboration of this thought is contained in W. W. Pollock and K. W. H. Scholz, *The Science and Practice of Urban Land Valuation*, ch. 27.

<sup>3</sup>Text of the ruling was obtained from Honorable William H. Malone, Chairman, Illinois State Tax Commission, Chicago, Ill.

administrative officials have not always considered such action as based on principles which might be enacted into law and continuously enforced, both in determining valuations and in reviewing them. The Illinois Commission's rule fourteen inadvertently used the phrase "unit of value" in place of "unit of quantity," and the unit-foot is described as "a strip of land" in the middle of a block, although the actual unit-foot is something more. It is a uniform quantity of land which, when appraised, represents a definite thing—the reflected valuation of the accessibility due to frontage on a street or highway—and the land so appraised by use of the unit-foot may include all frontages on a block, including those with other enhancements.

Rule fourteen having been proved to be injunction-proof, under the authority possessed by the Illinois Tax Com-

mission, and enforcement of the rule having compelled unwilling assessors in Chicago to follow systematic rules of valuation, rule fifteen had the effect of compelling these systematic rules to be continued. This latter rule required that in appeals from assessments appellants must consider the factors upon which assessments were based, and must suggest changes in those factors—unit prices for land or buildings, computation formulae, depreciation factors for buildings, and so forth—and that if the reviewing body changes assessments, the changes must be in the detailed factors, with reasons for changes. Rule fifteen is as important as rule fourteen because, when systematic methods have once been followed under the latter, the former permanently establishes the resulting systematic assessment in principle, even though the valuation may in fact be changed.

# The Interdependence of Land and Public Utilities<sup>1</sup>

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THE character of the future city will depend upon its public utilities. The economic basis of urban development is the grouping of labor for purposes of collective work. Decentralization simply means the breaking up of a large group into a number of smaller groups. Next to a permanent supply of pure water, transportation is the most important single element affecting city character and population grouping.

With the development of more and taller skyscrapers forming canyons of commerce, even light and air are departing from the category of free goods and the public dependence upon such services as vertical transportation, artificial light, gas heat, telephone communication, and, more recently, washed air, and the typing telegraph, has grown from a matter of convenience to one of absolute necessity. This high degree of public dependence, together with certain natural monopolistic characteristics, has distinguished the utilities from other types of business enterprise, especially as to the degree of interdependence with reference to land, and has resulted in the substitution of public control by commission, home rule, or public ownership for the earlier laissez faire policy of government.

In the modern metropolitan community the consumer does not obtain water from his own well, nor generate electricity for his own light, and with the development of gas for house heat-

ing we may look forward to the time when even heat will come from a common source of supply. As a result of this integration of supply which has proceeded as the remarkable technological developments in the industry have taken place, the consumers of these public services are now, for all practical purposes, entirely dependent upon them. The conclusion that land values also are dependent upon them need only be modified to the extent of recognizing that the degree of such dependence varies with different conditions.

## NATURAL RESOURCES

In examining the degree of interdependence of land and public utilities, we first recognize in a general way that land in its broad usage includes all natural resources. Land includes "the material and forces which nature gives freely for man's aid in land and water, in air, light, and heat."<sup>2</sup>

Public utilities play a large part in determining the way in which these resources are proportioned among users. They are agents for the transformation of resources into goods and services. The degree of efficiency in this transformation of fuel, water, and minerals into heat, light, power, and other commodities, is of first importance in the problem of conservation of natural resources, and, further, the efficiency of distribution of these services and products to the ultimate consumer is a prime factor in their cost.

<sup>1</sup> The writer is indebted to his associate, Mr. Myron H. Umbreit, for helpful suggestions and cooperation in the preparation of this article.

<sup>2</sup> Alfred Marshall, *Principles of Economics* (5th ed., 1927), bk. IV., ch. 1, p. 138.

Rapid as has been the growth of the United States, its slow growth from the time of its discovery to the beginning of the nineteenth century was caused primarily by the lack of adequate means of transportation, communication, and power, for the development and utilization of its natural resources. In so far as public utilities make possible the production and distribution of products and services, they make income available to land, and hence give value to land.<sup>3</sup>

The legal concept of land includes everything attached to the earth, "whether by the course of nature, as trees, herbage, and water, or by the hand of man, as houses, and other buildings."<sup>4</sup> In commenting upon this statement, Richard T. Ely points out:

The term real estate is used in economics not simply because the lawyers use it, but because for so many purposes the land and improvements form a natural economic and income-producing unit. . . . The returns on the land and on the building are added together to determine the profitability of the investment. . . . The land itself stands out more prominently in the case of the farm than in the case of city real estate.<sup>5</sup>

In examining the interdependence of land and public utilities, we should treat agricultural land separately from urban land, since public utilities affect the income from the products of land itself in the case of agriculture,<sup>6</sup> but more directly affect the income from the improvement of land in the case of urban development.

<sup>3</sup> It must be recognized that in these respects public utilities are different from other industrial enterprises in degree only.

<sup>4</sup> Kent, *Commentaries*, III, p. 401.

<sup>5</sup> Ely and Morehouse, *Elements of Land Economics*, p. 13.

<sup>6</sup> The possible effects of widening the scope of rural electrification should not be overlooked.

### AGRICULTURAL LAND

Transportation has done more, perhaps, in bringing agricultural land into use than any other single factor. Nearness to market is measured not only in miles, but in minutes and money. In the case of perishable products, minutes are more important than miles; but for all products, costs of transportation limit the area of the market.

Advance of the means of transportation has brought with it increasing national wealth, as well as problems of social control affecting land utilization and land values. The United States of 1910 found its center of population five hundred miles farther west than it had been one hundred and twenty years before. Land values have been shifted—being increased in some cases and lowered in others. Recently there have been indications of a movement of population and of industry toward the south—a movement which is going hand in hand with the development of water power and other natural resources in the southern states. Irrigation projects, which in some cases are indirectly related to electric power development, have brought some land into use. Public utility developments have been instrumental in bringing much agricultural land into use or have added capital to land already in use, and thus, perhaps, to some extent, have contributed to the present overstock of agricultural land.

### URBAN LAND

Urbanization has been an outgrowth of the division of labor. In the past fifty years developments in the fields of science have brought about machine technique and with it its corollary, mass production. These factors, together with the increasing necessity for a place of exchange or a



market for the products of division of labor, have brought about concentration of production and labor in urban areas.

Although the utilities have contributed to the undesirable congestion in our metropolitan cities, technological developments are now contributing to a decentralization. As long as transportation costs were relatively high, it was necessary for productive enterprises to be located near sources of raw materials. Cities located near natural resources, or where cheap transportation was available by lakes or navigable streams, were in advantageous positions, and developed rapidly. However, with increased speed, lower costs in transportation, and improved methods of power, gas, and water transmission, cities once strategically located now find their advantages shared by other cities having these factors available. These factors influence decentralization, and hence land values, and are offsetting to some extent the centralizing influence of machine technique, mass production, and the division of labor.

#### CHANGING SIGNIFICANCE OF PUBLIC UTILITIES

There has been a shift in the relative significance of public utility services. As already pointed out, transportation has seemed the all-important agency for providing access to markets. The location of industrial plants, once predicated upon transportation facilities and labor supply, is now also influenced by rates for either electric power or industrial gas. Transportation has become of increasing importance through improved service and faster delivery of raw materials and finished products. This increased speed has made possible a reduction in inventories and has released large

amounts of capital for further industrial development.

Within the urban areas, the character of transportation is undergoing a change. Superhighways, belt lines, and double-decked streets are being developed to facilitate the easy circulation of traffic within the urban area. Mass transportation by elevated and subway train is still essential, but the importance of these facilities is being modified by the growing use of the automobile for individual transportation and by the realization that additional subways and elevated tracks when centralized may increase rather than relieve congestion.

In this connection, the changing character of the demand for telephone service is interesting. The tendency for industry to divide on a functional basis is increasing. Manufacturing functions give way before rising land values and increasing congestion, and move toward outlying sections of a city. The managerial, credit, and merchandising functions, however, tend to remain close to the pulse of the market. Without the almost instant communication between the various branches and departments of the business which is made possible by the telephone and the telegraph, this functional division of industry would be less significant. The quick transportation of ideas is not only making possible the decentralization of industry,<sup>7</sup> but it is also lowering production and distribution costs by reducing in-

<sup>7</sup> The branch stores of Marshall Field & Co., of Chicago, located in Oak Park and Evanston, Ill., offer an interesting example of the decentralization trend in the merchandising field. Employees of the Loop store, living in these suburbs, have been given first choice in the filling of jobs created by the new stores. These branch stores will probably also affect the significance of the telephone which has been used quite extensively by suburban customers of the Loop stores.

ventories and releasing capital for other purposes. Land values, then, are becoming more dependent upon the character of communication services.

Not only in industry do we find this shift in the significance of various public utility services. It is also apparent in the development of our residential communities. New standards of home life have developed, involving the use of gas, electricity, and the telephone. These standards have become embedded in our lives; our homes are built to conform to them. The various devices and appliances for providing light, heat, and cold are now more essential in many instances, and hence are of greater importance in maintaining land values than are the organized agencies of mass transportation. The automobile has changed the scope and the content of our whole concept of the necessity and the place of mass transportation in urban development.

#### PUBLIC UTILITIES AND HOME OWNERSHIP

One of the principal arguments against the single family dwelling and home ownership is the labor involved in caring for a home. "Keeping the home fires burning" is an idea which is experiencing a declining popular appeal. The problem of increasing the demand for homes is one for the coöperative research of builders and of public service companies. Analysis of the possibilities of developing new or improved labor-saving devices has social significance.

One problem facing the utilities today is to develop diversified uses for their services. In a business of high fixed investments, this spreading use brings higher load factors, and hence lower unit costs, with general public benefit. In this effort, the electric utilities have been in a better position

to extend their services than have the gas utilities. They have developed a greater diversity of appliances through which their product may be sold.<sup>8</sup> Both gas and electric utilities have found themselves in competition with other large and well-integrated groups which are fighting for a share of the consumer's dollar.

In the past, the utilities have given their attention to technological developments and to mass production, but are now seeing the necessity of giving more attention to merchandising and pricing policies, in order to meet this competition. A reduction in the cost of home ownership would help the utilities to meet this competition. The cost of home ownership is now so high that often little surplus is left with which to pay for those services. Both utilities and home builders are confronted with competition from automobiles, radios, and other services. Those who are interested in home ownership and in city planning have much in common with the utilities—the former, in lowering costs of home ownership; and the latter, in developing appliances and rate structures which will promote the use of utility services at "off-peak" periods.

#### CHANGING HABITS OF PEOPLE

Some recent developments in urbanization have peculiarly affected the public utility business. In urban transportation, for example, applications for fare increases prior to 1921 were attributed to increased costs of

<sup>8</sup> In Wisconsin "every public utility . . . shall keep separate accounts to show all profits or losses resulting from the sale of appliances or other merchandise. No such profit or loss shall be taken into consideration by the railroad commission in arriving at any rate to be charged for service by any such public utility." *Laws*, 1929, ch. 384. This law may limit sales promotion efforts in which appliances are sold at less than cost.

labor and materials, but since that date they have been based largely on the decrease in the riding habit. The automobile has brought about a decrease in the number of persons who ride on street cars. The radio has probably contributed to this decrease in so far as it has influenced people to remain at home for their entertainment. These factors are reducing the "off-peak" business, and the transportation cost per unit is rising as the load factor declines.

The changing habits of people have also affected the character of the demand for gas and electricity. We seem to be approaching a stage in our family life where we cannot afford to eat at home because of space limitations and servant costs. The tendency in the direction of multi-family dwellings is resulting in many cases in the elimination of the dining-room and the kitchen as space value increases. The type of dwelling, therefore, has a material effect upon the consumption of gas for cooking purposes. The tendency to "eat out," together with the use of precooked foods, is endangering the domestic gas load. The importance of this load is illustrated in the following table showing the analysis of gas sales in Chicago for the year

1928, and the estimated sales for 1935 and 1940, by classes of consumers.

TABLE I—ANALYSIS OF TOTAL PERCENTAGE OF GAS SALES IN CHICAGO, 1928,<sup>9</sup> AND ESTIMATES FOR 1935 AND 1940

Class of Consumer	1928	1935	1940
Domestic.....	63.21	56.26	50.27
House heating.....	4.00	10.50	14.75
Industrial.....	15.25	17.13	19.90
Hotel and restaurant	11.40	15.87	14.88
Commercial.....	5.82		
Street lighting.....	.32	.24	.20
Total.....	100.00	100.00	100.00

It is generally recognized that the average monthly consumption of gas per customer decreases as the size of the multi-family dwelling increases. This is shown by the following survey.<sup>10</sup>

Type of Dwelling	Per Cent of Average Monthly Consumption Per Customer
Single family.....	100
Two-family.....	68
Three-family.....	62
Four, five, and six-family..	55
Over six families.....	46

TABLE II—CLASSIFICATION OF DOMESTIC GAS CUSTOMERS<sup>11</sup>

Type of Dwelling	Number of Buildings	Number of Customers	Per Cent of Total Customers
Single family.....	140,000	140,000	18.9
Two-apartment.....	115,000	220,307	29.9
Three-apartment.....	40,000	117,937	15.9
Four, five and six-apartment.....	23,200	110,168	14.9
More than six apartments.....	8,000	88,215	11.9
Apartments over stores.....	63,000	63,000	8.5
Total.....	389,200	739,627	100.00

<sup>9</sup> From a lecture by T. V. Purcell, Vice-President of the People's Gas Light & Coke Co., delivered before the Public Utility Rate Structure Class, Northwestern University, Nov. 19, 1929.

<sup>10</sup> H. H. Agee, "Effect of Economic Conditions and Social Trends on Rates," *Gas Age Record*, May 11, 1929, p. 643.

<sup>11</sup> T. V. Purcell, *op. cit.*

The significance of these figures is realized when they are applied to the following situation in Chicago.

With only 18.9 per cent of the domestic gas customers of Chicago in the highest average monthly consumption class, it will be seen that the reduction in the possible domestic load because of the increased use of multi-family dwellings has probably been important.

That this movement toward the multi-family type of dwelling is quite general is shown by the following statistics, published by the *Monthly Labor Review*.<sup>12</sup> In 1921, the number of families provided for by new construction of single family dwellings represented 58.3 per cent of the total, but in 1928 it represented only 35.2 per cent. The two-family dwellings show a similar decline from 17.3 per cent of the total in 1921 to 11.1 per cent in 1928. The multi-family dwellings, however, accounted for only 24.4 per cent of the provision made for families by new construction in 1921, whereas in 1928 this type accounted for 53.7 per cent of such construction.

#### PRICING POLICIES OF THE UTILITIES

This growing loss in domestic sales due to the trend toward multi-family dwellings is only one-half of the story. The customers using gas in the multi-family dwellings are in many cases not paying for the costs of service. They are, in the main, convenience users of gas—yet they enjoy the same rate paid by the home owner, who uses, on the average, from two to three times as much gas. The average gas consumption for a one-room, kitchenette apartment is about four hundred cubic feet per month, and for a three-room apartment it is from seven to eight hundred cubic feet per month. With a flat rate, the gas company must sell about three thousand cubic feet per month before

a customer is considered profitable. This situation reacts unfavorably on the use of gas in single family dwellings, since the rate to these users is higher as a result of the losses in sales to convenience users.<sup>13</sup>

This situation not only reacts unfavorably on home ownership, but it may lead to submetering. The company may seek relief from the customer costs of serving these small users of gas by installing a master meter in the building and by billing the total consumption of gas to the owner or the renting agent. Where the community is overbuilt with apartments, the owner may "throw in" the gas and the electricity used for cooking and lighting purposes as a special inducement in order to rent his apartments. However, when an apartment shortage occurs the owner may capitalize upon his contract with the gas or the electric company by charging his tenants for gas and electricity on a basis in excess of the utility company's standard rates.

The result of this policy on building values is well illustrated by the submetering of electricity in New York. If in Manhattan alone submetering were abolished, it is maintained that about seventy-five hundred buildings would be affected.<sup>14</sup> The annual loss in income to the owner in some cases has been estimated to be as high as thirty thousand dollars per building. Where such income has been capitalized in determining the value of a building for bond issues, the abolition of

<sup>13</sup> In the electrical industry the problem of convenience users was recognized as early as 1896, as indicated in the following quotation from an article by Arthur Wright: "The rapid fall in the cost of supplying electricity, as the average time of use increases, makes the small householder a much more profitable class to supply than the residences where the wealthy dwell, owing to the frequent absence from home of this class."

<sup>14</sup> "The Other Side of Submetering," *Electrical World*, Dec. 7, 1929, p. 1143.

<sup>12</sup> May, 1929, p. 144.

submetering may result in an indirect method of selling the property to the bondholders. Thus, pricing policies of the utilities may create or destroy property values.

It has been said that the flat rate for street railway services has been responsible for building up suburban territory, and hence that the installation of zone fare systems will have an adverse effect upon land values in outlying districts. The justification for the flat rate as a means of aiding decentralization in early urban development may lose weight once that development has taken place. In fact, once the outlying communities are developed, the zone fare system may encourage the location of industry and the development of business within each zone, and thus aid decentralization.

In connection with the problem of pricing transportation service and its effect upon land, we might well consider that a certain portion of the cost of transportation service could equitably be spread over the entire community on the basis of a public benefit. There is no fixed charge for transportation service for those who do not use the service regularly and who therefore contribute little or nothing to its revenues, but whose property values depend to some extent upon that service. The daily car rider is paying this readiness-to-serve charge, and so long as he has included in his rate of fare a charge for taxes he is also paying indirectly a part of the taxes on the property of those who do not use the service, but whose property values depend upon transportation. For example, in 1927 the Chicago surface lines paid to the city of Chicago for general taxes, paving, street cleaning, free rides, and the city's share of net earnings over eight million dollars, or about one cent per revenue passenger

carried.<sup>15</sup> These charges have proven a most satisfactory method of collecting taxes indirectly. However, the sensitiveness of capital to work in fields where the return is low or the risks high is impairing proper transportation development in many instances.

Relief from the paving burden, a relic of horse-car days, is one cry being heard from utility managements. Recognition of the justice of this appeal only tends to emphasize the interdependence of problems of land and public utilities, since such relief, under present methods of taxation, will very largely transfer such costs of paving directly to abutting property owners. The pricing problem of transportation service is inseparably bound up with a consideration of the proper distribution of costs between the taxpayers as a whole, the owners of real estate, the car riders, and the owners and users of automobiles.

#### EXPANSION POLICIES OF UTILITIES

To keep pace with America's growing cities requires large and ever larger amounts of public utility capital. Since utility investments, once made, are highly specialized and definitely committed to one type of enterprise, the site for the commitment must be strategically located, with careful consideration of present and future load centers and the direction and the intensity of city growth. Failure to make an economic choice in these commitments, such as extensions of street car tracks, gas mains, water mains, telephone cables, or electric lines, into subdivisions or other territory where urban development does not follow, results in higher costs for those services in other parts of the city, with a possible slow-

<sup>15</sup> L. D. Jennings, "Some Economic Aspects of the 1927 Tax Burden on Chicago's Street Car Patrons," *Journal of Land and Public Utility Economics*, Aug., 1928.



ing up in urban development in other sections of the city where it is needed.

Provision for the expansion of public utility plants must be made ahead of the growth of cities; otherwise, that growth will be retarded. We realize the need of forecasting the future growth of our cities and of planning accordingly. The utilities should be, and usually are, just about one step ahead of such plans, with plans of their own for plant expansion in anticipation of that growth. However, the street railway is one exception to this. Largely because of increased costs and widespread use of the automobile, street railway expansion now awaits urban development instead of preceding it.

Another element affecting the degree of interdependence of land and public utilities is the risk involved in capital investments. In the case of utilities, we need only mention the present uncertainty in the method of determining the rate base or the valuation of the property and the plant; the ability of the utility to control the market for its services, secure its proper portion of the consumer's dollar, and meet competition from alternative services; the uncertainty of the character of the investment market and the policy of capitalization of the enterprise which may result therefrom; the degree of government regulation, investigation, or interference; the operating methods of the management, particularly with respect to the handling of depreciation and of obsolescence reserves. All these factors affect the amount of the return which the investors require before they will give up their capital to the enterprise.

Where urbanization and population growth proceed faster than anticipated, the cost of utility services may rise instead of decline, as a result of inadequacy or obsolescence of property otherwise physically valuable. Prog-

ress requires the scrapping of a plant prior to the expiration of its usual life. In this economic loss, land is not immune from the effects of either a proper or an improper balancing of present losses against future gains.

#### SOCIAL FACTORS

As congestion of our cities increases, provision for its relief takes the form of street widenings, grade separations, or other improvements requiring the removal or relocation of street car tracks, gas mains, and other "underground utilities."<sup>16</sup> Wires may be put underground to improve the appearance of the streets. These factors all affect the amount of return received by the investor, as well as the amount required by him in compensation for the risk to his capital which they impose, and hence they have their effect upon the cost of bringing land into its highest use. These social factors may become of great importance if city planning progresses to a point where significant changes lead to decentralization.

One of the big problems to be solved in the construction of subways in Chicago is that of proper apportionment of the cost burden of relocating underground utilities as between taxpayers, property owners, car riders, and utilities. Capital is sensitive to the risks involved in the distribution of these costs as between land and public utilities.

Another factor of considerable significance in large cities is the smoke

<sup>16</sup> The recent straightening of the Chicago River is a case in point involving costly changes of railroad tracks and other utility property. The relocation of the switching yards of the Chicago and Northwestern Railway from the central western section of the city to a point several miles west of the city limits is another example. The result of this latter movement not only has had its effect upon land utilization, but has created a problem in developing new home sites for employees near their work.

nuisance. The solution of this problem may be brought about by the elimination of coal-burning appliances and the substitution of gas or electricity for heating purposes. The price of domestic fuel is tending, to some extent, to bring about this change. As the alternative costs of heating with coal or oil increase, the field for domestic gas and electric heating spreads. Furthermore, congestion increases the problem of distribution of raw materials. Distribution of heat by the wagon load may serve the economic requirements for the small city, but in metropolitan areas the elements of congestion and distance may well bring the alternative costs of piped heat within the realm of economic justification.

As these public utility services continue to spread, the home owner, the apartment house owner and dweller, the butcher, the baker, and the candlestick maker, all find themselves tied closer and closer by dependence or investment to a business about which they know little or nothing, but upon which their present economic status, standard of living, and well-being entirely depend.

In no other business do we find a product delivered in small parcels direct from the manufacturing plant to the consumer's premises without the intervening services of various middlemen, with their multiplicity of delivery systems. Could we but solve the technological<sup>17</sup> problems of distribu-

tion of the other necessities of life as we have solved the distribution of light, heat, and cold, the losses arising out of the economic friction of our existing methods of distribution would be largely eliminated and the prices of commodities would be materially lowered.

If the result of improving the economics of distribution is to bring land into higher and higher uses, then certainly the development of transportation and communication, and improved methods of transmitting heat, light, and cold from central manufacturing plants, have had a marked effect upon land utilization. Changes in social and economic conditions are bringing problems in land and public utility economics into sharp relief. This common social ground forms the meeting place for those engaged in the study of land and public utility economics and justifies coöperative research in the problems of each.

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physics, have made these technological developments possible. In this connection it is noteworthy that the research laboratories of the General Electric Company, the Westinghouse Electric and Manufacturing Company, the American Telephone and Telegraph Company, to mention but three of the largest, have been responsible for developments in power transmission, train control, long distance telephony and television, submarine cables, and other inventions of great practical importance in past and future developments of public utility services. When we speak of the interdependence of land and public utilities, we really are speaking of the dependence of land utilization upon those men who by constant research and experimentation have given us the instruments of public service which we call the public utilities.

<sup>17</sup> In speaking of technological developments we should refer to the men whose efforts in research, particularly in the field of mathematical

# A National Land Policy to Conserve Land Values

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IT should not be understood that the title of this article suggests the desirability of conserving land values at any particular level. Land, like any other good, may be too high or too low in its relation to other values, and in the interest of all concerned a return to a desirable balance should be encouraged. Until within the past few years, most of the farm land of the country, from the time it became private property, had continued to rise in selling value. From this fact, so long continued and so widespread, it was generally believed that for some unexplained reason the value of land was destined indefinitely to rise in price. To what extent this belief was based on Ricardo's, or the Single Tax, doctrine, one cannot say, but the belief was so firmly established that it, no doubt, had a sustaining influence in the maintenance of a steady, even though not uniform, upward trend in land values throughout substantially the whole country west of the Alleghenies.

The experience of the past decade has served to disillusion the owners of real estate respecting the immunity of land prices from downward influences. The question now under discussion is whether or not the Government can do anything to prevent recurrences of such disasters as the recent one attendant upon the decline in land prices since 1920. The desirability of stabilization of land values at some level is beyond argument.

## RESPONSIBILITY FOR LAND VALUES

The question of responsibility for land values in the past brings to mind two widely differing situations respect-

ing the ups and downs of selling prices during the past few decades. Without doubt, the greatest inducement to the people who settled in the West during the quarter century following the Civil War was the lure of land, which, as they viewed it, was destined to go up in price greatly and promptly. It was not strange that the settlers were ill-informed as to the prospects of land values. They knew in general terms that the public domain was a vast stretch of territory, and that in settling and cultivating it a great addition to the supply of foodstuff available for national and world markets was sure to result. They did not, however, appreciate at all keenly the results which were inevitable in the way of lowered prices of farm products. It was not strange that the individual settlers failed to comprehend the situation in the large. It was strange that those responsible for the actions of the Government should have shown so little interest in, or comprehension of, the situation which developed in the produce markets of the whole Western World, due to wholesale methods of bringing the Mississippi Valley under cultivation. The fact is that this aspect of subduing the wilderness received scant attention. The attention of the Government was so centered on peopling the domain to the westward that there was little room for apprehension respecting the secondary results of such settlement.

## NEED FOR GOVERNMENT POLICY

There is less difficulty in understanding the limited and erroneous views of the men responsible for the

management of the public domain one-half to three-quarters of a century ago than in excusing the more recent actions of the Government in its efforts to manage, or to dispose of, the remnants of the West, over which it has had jurisdiction. In order to conserve the values of agricultural land, either at present levels or at more stable and reasonable levels, should such obtain, the Government should adopt a conscious policy covering many points, among which some half dozen are suggested below.

*The Government should cease to offer for sale land of doubtful value and quality.* While the western frontier was confined mainly to the lands of the Ohio and the Mississippi valleys, and before it had crossed the hundredth meridian or made much headway into the cut-over sections of the Lake or the Gulf states, the matter of quality of land could be left with fair safety to the judgment of the settler. Within this great area there were comparatively few unknown factors of primary significance relating immediately to the welfare of the settler. He knew what to expect of the soil and the climate and, moreover, what was likely to happen in the way of community development.

The Government cannot be given much credit for the manner in which land was made available for settlement during the period of rapid expansion. As the pioneers crossed the hundredth meridian, they met the Government agents who made available to them the arid lands under the same acts and terms which had been the basis of procedure to the east of the Missouri River. Worst of all, in spite of many modifications during the past half century, we are still promoting undesirable settlement of land. We have failed to make the necessary study of land whereby it can be divided into categories suited to its powers. Graz-

ing lands are being homesteaded in tiny fragments. Irrigation is being attempted on the basis of too much money and too little water. We need a masterful survey and classification of what remains of the public domain—still a real acreage, not far from a tenth of the original amount—whereby it may be possible to offer land for specified uses, in tracts of suitable size, and on terms which the interested parties can meet.

*The Government should regain possession of much marginal land.* Under a laissez faire program, the Government, during the past, disposed of a vast acreage of land which has more recently become a source of prolonged, not to say endless, trouble. Probably the largest quantity of such land is found in the cut-over areas of what once was forest land. This land was disposed of under the Preëemption Act, the Homestead Act, the Timber and Stone Act, not to mention other means of separating the Government from the ownership of its original forest lands. These tracts, over a quarter of a billion acres in extent, are being reclothed by nature with more or less desirable trees. Great acreages have been cleared in part by people who hoped to establish farms and homes on the clearings. In all too many instances, these efforts have proved fruitless, and at present the prospect of further enterprise of this sort is dim. We have arrived at the practical, and undoubtedly correct, conclusion that the extent of arable land of the present day is ample, and moreover, ample for years to come.

If it be true that the present acreage of arable land is ample, it follows that the Government should assume the responsibility of keeping off the market such marginal land as it still owns, but this is mere negative action. Positive action is needed. Not only should the

Government cease offering to the public the right to homestead, or to purchase land unsuited to agriculture, but it should go much further. If this marginal land has any value at all, it is worth at least as much to the Government as it is to private individuals. For example, it is entirely feasible for the Government to make use of millions of acres of cut-over land for the growing of forests, and in all reason this can be done without loss, even though a dollar or a few dollars per acre should be paid for the land. In the interest of the value of land now in agricultural use, the Government should be required to undo some little portion of its past mistakes by purchasing the title to land, great in acreage but low in value, which, contrary to good public policy, was years ago offered to a credulous public under the implied recommendation that it had desirable qualities for private use.

Of all the commodities of wide and necessary use, timber has risen to the highest point in price. Forestry is one of the most difficult of all agricultural undertakings from the standpoint of the individual. These difficulties are not formidable from the vantage point of the Government. Should the Government decide to go into forestry in an adequate manner—adequate with respect to the probable needs of the country for timber and its products—the action would at once remove from the list of potential agricultural land many millions of acres that stand ready to contribute to the surplus food output which threatens constantly the stability of all land used for agriculture. A proper balance between agricultural land and forestry will not come to pass automatically in many years to come. The aggressive action of the Government is required.

Of a character similar in many respects to forestry is the grazing situa-

tion. Back and forth over the semi-arid plains have surged the contending, successive waves of settlers and cattlemen. Each was the natural enemy of the other. To the extent to which the settler succeeded, the cattleman was defeated. Always uncertain as to the tenure, the cattleman felt the urge to get what he could out of the range, with the utmost speed. Thus came overgrazing, in many sections involving millions of acres. Many ranges were grazed so close as to destroy the grasses outright. The responsibility for this disaster was, and is, chargeable to the lack of policy on the part of the Government. Land values are, through such action as this, rendered uncertain. The lands which the Government permits the settler to subtract from good grazing territory, and which become precarious arable land, are a great force in unsettling the status of the established, needed farm lands of the country. The work already done in respect to grazing within the domains of our national forests proves the desirability and the efficacy of grazing policies such as only the Government is able to inaugurate and to administer.

*The Government should refrain from new reclamation undertakings.* Nothing can be clearer than that the Government should refuse all requests for new reclamation projects until such time as there appears, in the interest of the public, to be some reasonable occasion for the expansion of food production. During the latter part of the nineteenth century, the limit of profitable investment of private funds in irrigation projects was about reached. This being the case, the Government was implored to take up the matter, which it did. The one to two hundred million dollars paid out by the Government in watering arid land is in itself not a very great matter. The important phase of the case is the contribution to



an agricultural surplus which the Government so artlessly, almost unconsciously, made. Every acre of the reclaimed land has contributed its bit toward the undoing of established agriculture. It has been a force designed to postpone the day when a better balance between the demand for, and the supply of, agricultural produce would serve as a basis for more stable land values.

*The Government should expand its game preserves and bird refuges.* No doubt this is a minor point in the great field of land values, but the use of even one or two per cent of land for the purpose of making life more enjoyable is a step in the direction of a more stable basis of values of other lands. If the time comes when we need every marsh and shallow lake drained, so far as it may be done in order to contribute to the bread supply, it will be proper to undertake the work. It does not take many years to drain a marsh or a lake. On the other hand, many drainage undertakings have been disappointing from the standpoint of agriculture, leaving a net result of the destruction of wild life. Surely, for many years to come, it would be better to use some millions of acres of land for game preserves and for refuges than to bring them into competition with the farming interests of the country.

*Limitation of output of farm produce.* By no other conceivable means can the values of land be conserved quite so effectively as through the limitation of the output. But limitation of agricultural output, except through the severe, almost brutal, operation of the price curve, is hardly known as yet. The country is waiting and alert respecting the possibilities of some measure of control of output to be effected through the Federal Farm Board. Thus far this consummation, while devoutly to be wished, is in the hope stage.

However, even though nothing exists which can properly be called limitation of output in the sense in which certain manufacturers adjust their output to demand, there is already some accomplishment in the efforts of farmers to anticipate the demands of the market with suitable quantities of goods. There will be more than an ordinary degree of interest shown in the efforts of the Farm Board to extend its aid to such cotton marketing companies as are able to restrict their acreage and to withhold it from those which expand. The real test may come not from within the companies, which at best are likely to represent a minority of the growers for some years to come, but from the outsiders over whom the Board has no control whatever. Should the Board be able to coax or drive the great majority of all producers of a given commodity into the coöperative organizations, the control of output will seem to be within hailing distance.

When it is remembered that the greatest trouble within the realm of agriculture is that of surplus production, it will be appreciated that control of output is, beyond all comparison, important, if feasible. The Government has tried its hand at control through education and advice; now it proposes something more forceful.

*The Government has some control over land values through tariffs.* Through the dense fog surrounding the tariff issue, there shines at least a little light. Some tariffs on agricultural produce are effective, and to this extent they tend to uphold the values of the land involved in the production of the protected commodities. It will be agreed that this is true with respect to sugar beets, wool, flax, and, to some extent, beef, and dairy products.

The net result of the tariff in its relation to land values, is, however, quite another matter. Just as surely

as a few selected agricultural products may be made higher in price through tariffs, so, likewise, are many articles bought by farmers made higher by tariffs. In this latter effect, we have a force tending to hold the prices of land down. Moreover, it is a force undoubtedly greater than the opposite effect of the tariffs which increase the farmers' income.

#### SUMMARY

It appears that a land policy is, after all, a very broad concept. Not merely the above-mentioned, but many other influences and acts of the Government are so closely related to land values as to constitute parts of a land policy. But, returning to the original theme, it may be said in summary that the National Government holds the destinies of land values in its hands to a great degree; that during the past, and almost the whole past down to date, the Government has proceeded on the assumption that land is destined to be used in the production of food crops, directly or indirectly, and the sooner it can be put to use for this purpose, the better. On this assumption, we arrived at the free land doctrine of 1862, and forty years later added to free land a sum sufficient to bring water onto arid land—and all on the assumption, little discussed, that the nation needed to bring more land under cultivation. Closely allied to these policies of the Government have been the policies and practices of the states, acting through their immigration departments, in attempts to induce settlers to come and to subdue portions of their domains awaiting cultivation.

By these extensive, ill-conceived means, we have depleted our soils unduly, we have destroyed forest and forage crops, and we have glutted the markets of the world with products

for which the returns have been meager. What we need is an inventory of land resources, an estimate of the needs of food and of fiber products, and a policy, even at this late day, which will undertake to match the developments and the output against the requirements, instead of assuming that all land should be put to work.

A national policy such as here suggested will provide for reforestation, mainly by natural methods, a large part of our cut-over territory; will restore game to millions of acres; and will promote grazing on areas suited for grass and not for grain. By these means the farmer will be relieved of the constant competition of the precarious frontier, which furnishes but scant return to the operators, but adds surpluses for a groaning market. Since much marginal land has gone out of public into private hands, and since, again, this land is coming back into a sort of new public domain as it becomes tax delinquent, it will be necessary to enlarge the idea of a national land policy to include both states and counties, and even townships in some states. No doubt, we need all our land. At least we have it, and will continue to keep it; but a plan should be devised to prevent the too ambitious promoters of expansion in agriculture from keeping us land poor and surplus ridden, results of a public domain too great to be comprehended and of a settlement policy continued long after its merits have disappeared. It should be made difficult for people to acquire public land, or tax delinquent land, and easy for them to move away from land which is unsuited for small farm operations, while in the place of these unpromising ventures the Government should institute a policy of positive use of land for such purposes as the best judgment, everything considered, can approve.

# The Influence of Public Improvements on Land Values

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THE people of the United States have spent some seven billion dollars in the past decade upon public improvements in the form of streets, highways, parks, and reclamation and irrigation projects—public works of a scope and magnitude which make the Appian Way and the Great Wall of China look like small projects indeed. Of the total cost of these improvements, approximately two and one-half billions were levied in the form of special assessments upon the land affected. The cities of the United States, of thirty thousand population or over, have spent over two billion dollars in this period on highway construction alone; and of this total cost, somewhat less than half has been paid for out of general taxes, the remainder being levied in the form of special assessments upon the land affected. We say *affected* rather than *benefited*, because our problem will be to inquire *just how land values in these cases have been affected*.

For the sake of some degree of precision, in a subject that is far from precise, we shall limit our inquiry to those public improvements which have the effect of increasing the quantity, availability, or accessibility of land for economic uses, such as streets, highways, bridges, tunnels, subways, and irrigation and reclamation projects. This will exclude chiefly Government buildings for specific purposes, such as post offices, city halls, and schools, and improvements of an ornamental or aesthetic character, whose effects are too intangible to be reduced to economic formulae. It will still embrace

the great bulk of the public improvements included in the aggregates quoted above.

These improvements are commonly supposed to increase the aggregate land values of the city or territory in which they are located. Federal departments, for example, have frequently computed the value of newly completed irrigation and reclamation projects and construed the resulting values as additions to the aggregate value of the agricultural assets of the country. In Chicago the construction of the Michigan Avenue "link" bridge and boulevard improvements north of it, we have frequently been told, cost the city sixteen million dollars but added one hundred million dollars to the value of sites north of the river, thereby repaying its cost six times over. And so when a new subway, rapid transit extension, or highway system makes new territory accessible to the downtown districts or adds a new residential section to the city, it is commonly assumed that it thereby adds a corresponding amount to the aggregate real estate values of the city or region.

It will be worth while to inquire how far these familiar assumptions are valid; and in this inquiry two lines of approach may be utilized, one theoretical and one experimental.

## THEORETICAL ANALYSIS

In the first place, on the basis of any accepted theory of land values and under anything approaching normal conditions, it is doubtful whether increases in the supply of land, whether

through physical increase or increased accessibility, can have any other effect than that of *decreasing the aggregate land values* of that class. This is due to the simple reason that land values in the long run must represent capitalized rent; and rent is the narrow margin between gross value of the product and the cost of getting it. Any drop in price of the product, through increased supply of land available for producing it, or other causes, means much more than a proportional drop in rent and value. If net rent is five per cent of gross product, a drop of one per cent in the price of the product means a drop of twenty per cent in rent; and, if long continued, this must eventually be reflected in a similar drop in land value.

The potato crop of 1928 was estimated by the Department of Agriculture to be sixty million bushels larger than that of 1927; but, according to the Department's estimate, the crop of 1928 was worth only \$.54 a bushel, compared with \$.965 a bushel for the previous crop, or a loss of \$138,700,000 in the value of the *larger crop of 1928* as compared with the *smaller crop of 1927*. Now this increased production was secured in part by an increase of three hundred and forty-nine thousand acres, or approximately ten per cent, in the potato acreage of the country.

What was the effect of the new acreage on the aggregate value of the potato acreage of the country? The Department of Agriculture figures leave little room for theorizing about this. The value of the production per acre, which was \$111.94 in 1927, dropped to \$65.34 in 1928, a loss of \$46.60 in the yield per acre—a sufficient drop to *wipe out any net rent that could possibly have been assigned to the previous acreage* and to impinge upon the proper allowance for wages and other expenses. So that, if the value

of this total acreage were dependent upon any net income that could be anticipated from continued potato production at that year's price, it would be headed for a severer deflation than that of 1921.

Fortunately such drastic deflation is already being averted through diversion of a portion of this acreage to other lines of production. The point holds, none the less, that in this case an increase of ten per cent in acreage and fifteen per cent in the product would, if continued, abstract more value from existing acreage than it would add in the form of new acreage, and would thereby leave a net decrease in total land value.

Professor John D. Black, of Harvard University, in his *Agricultural Reform in the United States*, has worked out some striking correlations between increased supply of agricultural products and the prices of these products; indicating, for example, that an increase of twenty per cent in the corn crop above normal output tends to reduce the price by approximately twenty-two per cent, and that an increase of twenty per cent in the potato crop tends to reduce the price nearly forty per cent, in both cases the aggregate value of the larger crop being less than that of the smaller crop. If the total acreage devoted to these crops were expanded by the accession of new lands, or otherwise, until these unprofitable outputs and prices were reached, and if this condition continued for some length of time, it is needless to say that the aggregate value of land devoted to these and similar crops would be less after such expansion than before.

Something like this has happened many times in the United States when land available for any purpose, agricultural or urban, has outrun population and capital. Indeed, it may be asked,

how much would the addition of all the land west of the Alleghenies have added to the value of land in the United States, if population, supply of capital, state of industrial technique, and all other factors had remained unchanged? The population of the country in the days of Washington was estimated at around four million, slightly more than the present population of Chicago. Suppose that population had not increased by a single soul; that capital had not increased by a single dollar; that industrial technique had not changed a single iota; that the only change had been the Louisiana and Florida purchases, the acquisition of the Southwest, the purchase of Alaska, and the acquisition of other odds and ends of the earth's surface. As it was, millions of acres of land were sold for fifty cents to one dollar an acre before these acquisitions; and historians have often spoken of conditions of virtually "free land" in this period. With the additional weight of later acquisitions (population and other things remaining the same), it is difficult to see how land could have become anything else than a free good, except for the legal formality involved in acquiring and holding title to it.

In short, it was the other things such as increase of population, increase of capital, revolutionary improvements in industrial technique, changes in the value of money, and so forth—things which did not "remain the same"—that gave value to this vast territory. The presumption is strong that normally, if not always, it is these things that cause increased land values; and that increases in the supply of land in the form of increased accessibility, availability, and usability, in consequence of transportation development, public improvements, and other factors, must normally tend to decrease total land values; that is, must tend to

abstract from existing values more than they add in the form of new land values.

The reason for this is not far to seek. Land values are caused by the demand for land and its services. Where people are concentrated in large numbers, particularly people equipped with capital, enterprise, and technical capacity, values rise, because each one brings with him his bundle of demands for land and its services. But at all the scattered points from which these same people have come, each one has likewise left a vacuum, large or small, according to the bundle of demands he carried away with him. In other words, land values, like people, are essentially nomadic, roving about from place to place over the face of the earth. In older days, when Abraham, with his cattle and camels, took temporary abode in southern Canaan, land values in the vicinity advanced so sharply and competition to appropriate them became so keen as to lead to open rupture between the followers of Abraham and Lot. When eventually the patriarchal caravan moved on to greener subdivisions, it left severe deflation in its wake. Nowadays, we have only to think of Ford and other modern chieftains in place of Abraham, and to substitute "flivvers" for camels, in order to realize that land values are still largely nomadic in their behavior.

We speak of *mobilia* and *immobilia* among forms of wealth, and land is always spoken of as the extreme example of *immobilia*, "fixed" and "immovable" assets. But if we are speaking of the values associated with these objects of wealth rather than the physical objects themselves, few forms of value are more volatile, movable, more truly *mobilia* than land values.

These values tend particularly to assume the form of wave motions,



flowing in one direction or another, but with each crest followed by a trough somewhere in its wake. In the United States we have had a particularly picturesque field for studying these movements. Since the settlement of the country we have had one huge wave starting on the Atlantic Coast and moving steadily westward, whose trough—so far, at least, as agricultural lands were concerned—at one time engulfed not only the Atlantic seaboard but much of Great Britain, Ireland, and western Europe. In the past thirty years we have had a powerful current flowing out of Pennsylvania, up the Mahoning Valley, and across the Great Lakes territory, bringing prosperity to Toledo, Detroit, and Chicago; but many once prosperous Pennsylvania towns are at the present moment falling into its trough. In more recent years we have had a broad current flowing out of New England to the South and Southeast, with great promise for the "New South"; but how deep the trough is going to drag, it will be hard to say. Unfortunately in these, as in most cases of shifting land values, the crests are more conspicuous than the troughs.

#### A FACTUAL APPROACH

In an effort to secure more exact facts with regard to the influence of large public improvements upon these mobile and sensitive land values, a study is now being made of the effects of street and highway improvements in Chicago. Needless to say, it is difficult to secure exact data, and still more difficult to segregate the effects of public improvements from the score of other influences involved. Quite possibly we may not be able to do it at all. But an illustration of such results as have been reached will be offered for whatever value it may have.

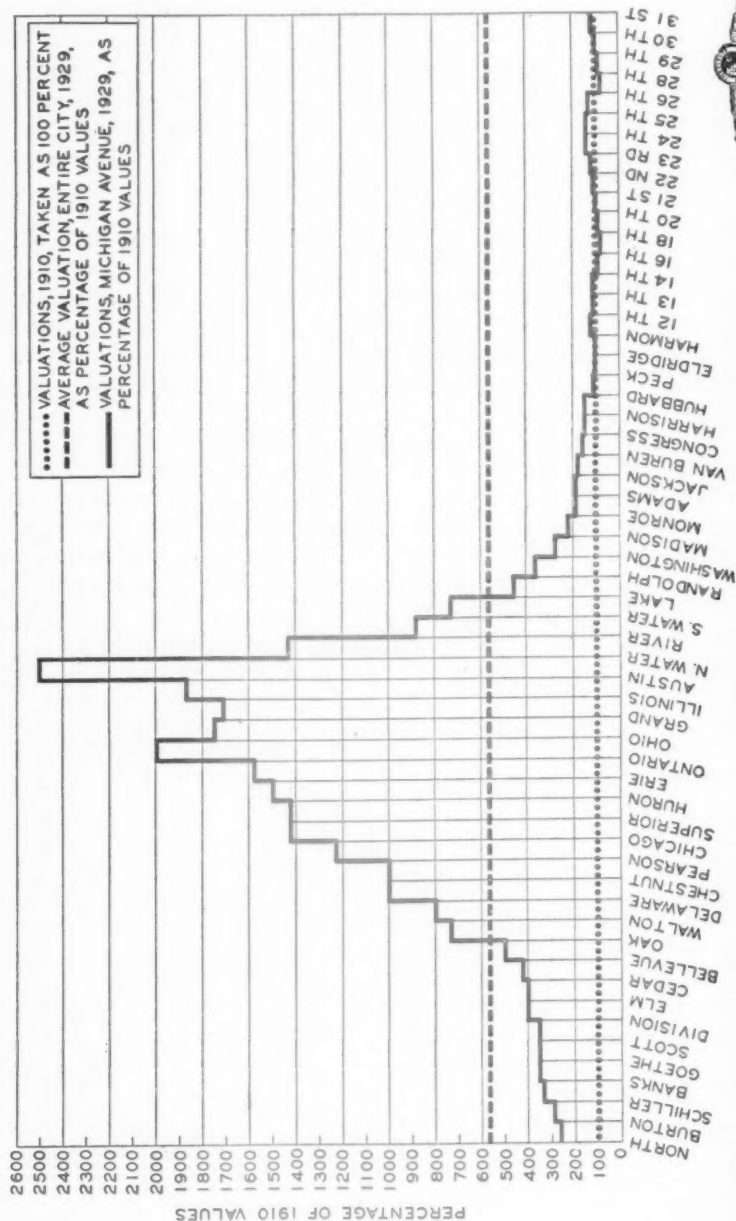
Chart I is a value profile of the west

side of Michigan Avenue in Chicago. Michigan Avenue is a main thoroughfare running north and south, roughly paralleling the lake shore. The section included in the profile here begins at North Avenue, two miles north of the "Loop," and extends to 31st Street, three miles south of the "Loop." The values are front-foot values in the middle of each block, as reported by George C. Olcott and Company, appraisers and publishers of the annual *Land Values Blue Book of Chicago*. This is the standard real estate reference manual for Chicago. How accurate these valuations are, may be a matter of judgment. But they represent a series of consistent valuations from year to year, based largely on actual sales, and made in general by the same staff and by the use of similar methods. They serve admirably, therefore, for purposes of comparison from one period to another. The chief criticism upon them, if it be a criticism, is that they are extremely conservative; and that therefore, in sections or periods of rapidly rising values, the Olcott figures ordinarily lag from one to three years behind sales prices.

The dotted line at the one hundred per cent level represents front-foot values in 1910. The solid line represents values of 1929 in percentages of their 1910 values.

The section from Lake Street to Pearson is the portion particularly affected by the improvements under consideration, including the completion of the "link bridge," a two-level thoroughfare and double-deck bascule bridge across the Chicago River, in 1920, the widening of Michigan Avenue to Chicago Avenue, completed in the same year, a continuation of the same widening to Pearson Street in 1927, and the development of a general boulevard system from there northward. It is the effect of these improvements that

CHART I  
MOVEMENT OF LAND VALUES ON MICHIGAN AVENUE, CHICAGO, 1910-1929  
FRONTAGE VALUES - WEST SIDE OF STREET



BASED ON VALUATIONS OF GEO. C. OLCOTT & CO., APPRAISERS

we wish to measure; and a glance at the chart suggests that that story falls into two sharply contrasting chapters.

#### APPRECIATION AND DEPRECIATION

In the section directly affected by the improvements, we have a spectacular appreciation of values, amounting in some blocks to 2500 per cent. The maximum appreciation accrued on lots just north of the river, in the section on which the Wrigley Building was erected in 1924 (begun in 1920) and the Tribune Tower in 1925 (begun in 1923). This chapter of the story is very familiar to residents of Chicago, who have frequently been reminded that while the initial Michigan Avenue improvement cost sixteen million dollars, it added one hundred million dollars to property values.

The other chapter is the story of the territory from Randolph Street southward. Here frontage values have been relatively stationary, increasing moderately in some sections, but actually declining from the 1910 level in others. These actual declines are startling enough but are only a small part of the story, for if we compare the movement of values on South Michigan Avenue with the average movement of real estate values for the entire city throughout this period, we find that *the whole section declined*.

In order to determine this movement for the city, one hundred locations have been taken, distributed territorily over the entire city, and their values traced from 1910 to 1929. This sample indicates an average appreciation for the entire city of 462 per cent during this period. This average rate of appreciation has been represented by the broken line across the chart at the level of 562 per cent. This level should measure roughly the effects of increasing population, increasing trade and industry, rising price levels, and such

other general factors as affect the whole city, including, of course, Michigan Avenue. The divergence of Michigan Avenue from this level must, in turn, represent the effects of factors peculiar in some way to Michigan Avenue or its immediate vicinity. Measured in this way, it is apparent that the entire territory from Randolph Street to 31st Street has undergone a severe depreciation. Indeed, the concrete evidences of such depreciation are sufficiently visible in the actual movement of tenants from buildings on South Michigan Avenue to locations on North Michigan Avenue, or the near "North Side," loss of business, and deterioration of property.

Here we have a striking illustration of the wave motion of land values to which we have referred, with the crest of the wave moving northward and a distinct trough following in its wake, a trough which would have been much more disastrous, had it not been somewhat obliterated by the cross-currents of increasing population, rising general price levels, and other general influences.

How much of this movement of values is attributable to the public improvements? Of course, there can be no method of exact determination, but we can at least get some rough measurements of it. By eliminating the general movement for the whole city we can isolate, roughly at least, that portion of the movement attributable to factors local to Michigan Avenue. But, in addition to the public improvements, there is still one other factor which, while not *local*, must register its effect longitudinally along Michigan Avenue. This is the general northward drift of the city, which should have the effect of enhancing values on North Michigan Avenue and depressing them on South Michigan Avenue. In order to measure the

force of this factor, at least in terms of its effect on land values, our sample one hundred frontages were divided into two groups, those north of Madison Street (the east and west line through the heart of the "Loop") and those south. The North Side showed an appreciation of 611 per cent, the South Side 377 per cent.

This means, then, that if North Michigan Avenue had merely kept pace with the general movement of land values in Chicago, it should have appreciated 462 per cent. If it had kept pace also with the accelerated increase of the North Side, it should have appreciated 149 per cent more, or a total appreciation of 611 per cent. Such increases as occurred in excess of 611 per cent may therefore reasonably be ascribed to the influence of the public improvements. The average appreciation of lots on the west side of the avenue from Randolph Street to Pearson Street was 969 per cent, amounting to a total actual appreciation of \$282,281,328, as compared with 1910 values. The difference, then, between 611 per cent and 969 per cent, which is 358 per cent and amounts to \$104,290,000, may reasonably be ascribed to the influence of public improvements.

Let us now turn to the other half of the story. Even if South Michigan frontages had failed to keep pace with the movement of real estate values for the whole city, but had merely kept pace with the South Side, they should have appreciated 377 per cent, or \$2,103,550,000. The amount by which they have fallen short of this is 221 per cent, or \$1,231,115,408. This amount, \$1,231,115,408, might therefore be taken as representing the amount of land value "syphoned," so to speak, out of South Michigan Avenue over into North Michigan Avenue, or the near North Side somewhere.

This amount includes, however, properties in the "Loop" section of Michigan Avenue, which are subject to some special conditions. These properties had already reached a high frontage value at the beginning of the period in 1910, and had already become established in their present intensive uses. It is true that locations in the heart of the downtown district have participated liberally in the general appreciation of land values during the past two decades; but still the downtown district represents at least relative stabilization of uses and values, and it may be felt that its behavior will not necessarily correspond to that of other sections of the city.

In the interest of conservatism, therefore, the "Loop" section of Michigan Avenue, represented by the eight blocks from Lake Street to Congress Street, will be excluded, and the total depreciation computed for the remainder of Michigan Avenue from Congress Street southward to 31st Street.<sup>1</sup> The total depreciation thus computed for the west side of the avenue comes to \$609,198,420. Even with this liberal qualification, therefore, we have, in a nutshell, an *appreciation* of \$104,290,000 at one end of the avenue and a *depreciation* of \$609,198,420 at the other. The figure for appreciation comes remarkably close to the popular estimates of \$100,000,000, quoted earlier in this article. The other item of \$609,198,420 has

<sup>1</sup> For similar reasons, the relative "depreciation" (in the sense of failure to keep pace either with the movement of the North Side or of the average movement for the entire city) in the blocks from Oak Street to North Avenue is not included in the computation here. This territory is in process of transition from high-class residential to high-class apartment and commercial uses and has not yet had time to register what the effect will be when the transition has been completed.

been overlooked in these popular estimates of the results of the Michigan Avenue improvement.<sup>2</sup>

In Chart II the movement of values on North Michigan Avenue is compared with that of the North Side, the South Side, and the city as a whole.

It should be recalled that on account of the lag imposed by the conservatism of the Olcott valuations, it is probable that both the sharp upturn of values following the war and the relative stabilization of values at the end of the period actually occurred a year or two earlier than is suggested by the curves.

In Chart III the allocation of the various portions of increment and decrement is graphically represented. Needless to say, no one would think of

imputing any high degree of exactitude to these apportionments of such intangible and elusive things as increments and decrements of land value. Nevertheless, the facts presented would suggest that they represent the situation with substantial accuracy. It should be kept in mind, likewise, that these apportionments refer only to Michigan Avenue and do not attempt to take account of collateral effects on other streets in the vicinity of North Michigan and South Michigan Avenue. It may be observed that such data as are available appear to indicate that the major portion of the effect of the improvement is pretty closely concentrated longitudinally along the route of Michigan Avenue.

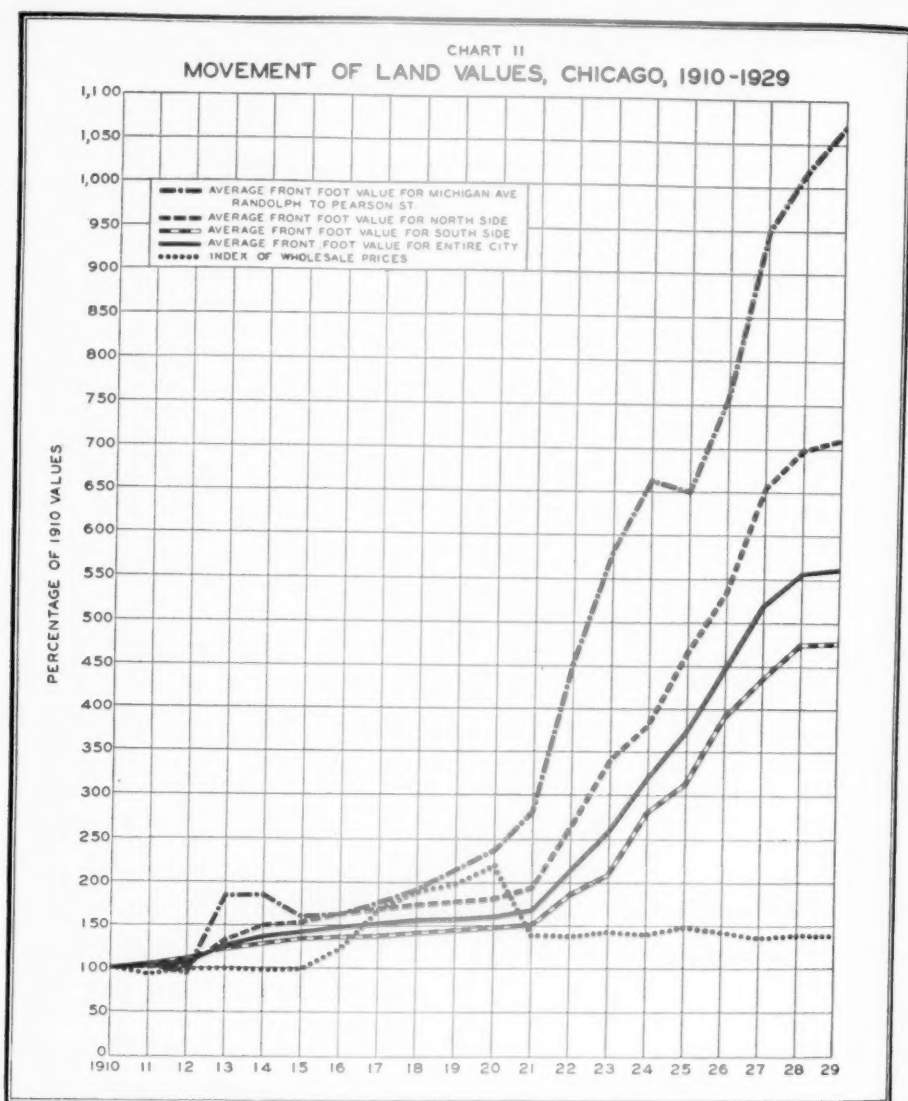
<sup>2</sup> One factor that will occur to many readers as an element in this depreciation is the presence of the Negro district in the southern section of the city. But this, however significant it may be in other respects, can scarcely be a factor in the problem under consideration here, for the following reasons: (1) The Negro district was already established here in 1910 and cannot well afford an explanation of variations since 1910, except as changes may have taken place in the character or the movement of the district itself. (2) The trend of movement of the Negro district has been *southward*. Originally coming up to 12th Street, it had receded by 1920 to 16th Street, and at the present time to the neighborhood of 26th Street. The peak of Negro density, for a long time between 31st and 39th Streets, is now estimated, on the basis of recent occupancy figures, to be between 39th and 55th Streets. (3) In general, Negro influx is a *result* of low values rather than a cause of them. Negro occupancy follows the troughs and depressions of real estate values, but ordinarily affords little more explanation of them than the presence of water in a depression affords an explanation of the existence of the depression. (4) Visible proof of all this is apparently afforded by Chart I, where the movement of values in the mile of frontage from 16th Street to the "Loop" (which is free from Negro influence) appears to differ in no way from the movement from 16th Street southward.

For these reasons, the presence of the Negro district to the southward is unhesitatingly excluded as a factor in the variations of value on Michigan Avenue during the period covered.

#### CORRELATION OF LAND VALUES WITH POPULATION, PRICE LEVEL, AND NORTHWARD TREND

In an effort to utilize as exact methods as the problem may be susceptible of, we have applied experimentally the mathematics of correlation. Presumably the two general factors involved, other than public improvements, are the general appreciation of land values throughout the city and the northward trend of the city. The general appreciation of land values can, in turn, be broken up into its two major factors, growth of population and rising general price levels. If it were possible to apply multiple correlation to these three factors—population, price level, and northward trend—it might be assumed that that part of the movement of values not accounted for by these factors could reasonably be ascribed to the influence of the public improvements. For various technical reasons, however, the ordinary processes of multiple correlation cannot well be applied to these factors. In another twenty-five or fifty years, when we may have the record of several swings of these



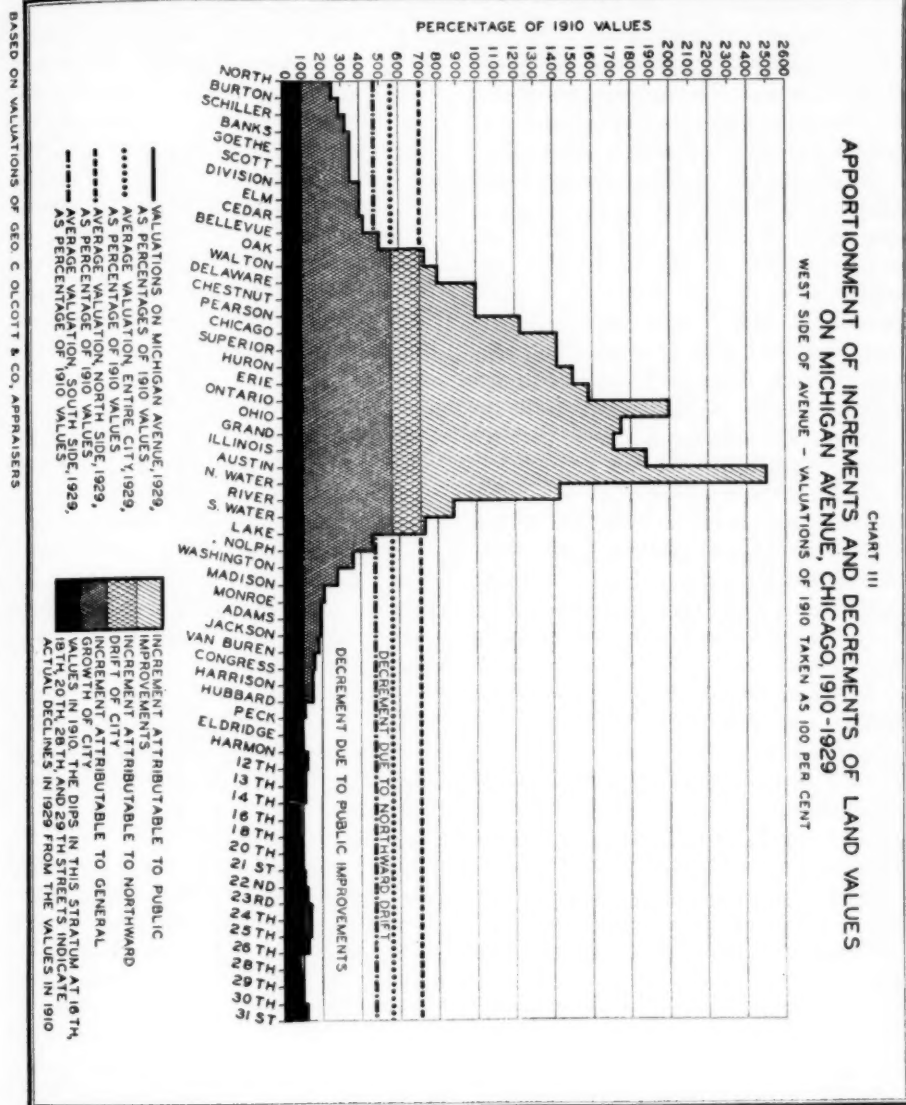


BASED ON VALUATIONS OF GEO. C. OLCOTT & CO., APPRAISERS

factors in both directions, this field will afford a beautiful problem in multiple correlation. In the meantime, a correlation of "first differences" indicates partial correlation of  $+ .49$  with population,  $+ .38$  with changes in general price level, and  $- .13$  with the northward trend.

The negative correlation with the

movement of general price level is interesting, though obvious enough in Chart II, where the big appreciation of land values is shown to have occurred after the decline in price levels in 1920. The total amount of variation in Michigan Avenue land values accounted for by all three factors—population, price level, and northward trend—by



the method of "first differences" above, proves to be only thirty-one per cent; and this is probably somewhere near the actual fact. In that case, approximately seventy per cent of the movement is to be ascribed to other than these three factors. This means, of course, not seventy per cent of the present values, but seventy per cent of

the "variation" or *movement of values* during the period covered. This would seem to leave no room for doubt that the public improvements under consideration have had more influence than all other factors combined upon the movement of land values on Michigan Avenue in the past decade.

## IMPLICATIONS OF DATA

In general, the situation that we have analyzed would seem to imply that where public improvements confer such striking appreciations of property values, the city is justified in imposing a large portion of the cost upon the property so benefited, in the form of special assessments, and a relatively small portion of the cost upon the entire city in the form of general taxation. And where the improvement has the effect of abstracting land values from other sections, as in the case of South Michigan Avenue, the injustice of meeting the cost through general taxation is further aggravated.

But a more specific implication has to do with the determination of the special assessment district itself. The accompanying map indicates the district over which the special assessment for the Michigan Avenue improvement was spread.

In view of the facts already presented, comment is scarcely necessary. The assessment has been spread over three miles of frontage which not only was not benefited, but, by any test that can be applied, was actually injured by the improvement.

As a matter of fact, property holders on South Michigan Avenue have suffered in three ways. In the first place, they have lost business and property values. In the second place, their regular taxes have been increased, because in Chicago real estate is assessed quadrennially. The result is that in recent years most property holders in Chicago have enjoyed an untaxed appreciation of property in the interims between assessments. But many property holders on South Michigan Avenue have suffered a depreciation which is not reflected in their assessments until the end of the quadrennium and which makes their taxes upon actual value quite generally

higher than in other sections of the city. In the third place, they have been compelled to build their own scaffold, so to speak, by paying the special assessment for the improvement which has contributed, in part at least, to the depreciation of their property. We may add that a number of similar situations are found in Chicago, including the new Wacker Drive and North La Salle Street developments. And presumably these situations are not peculiar to Chicago.

## CONCLUSIONS

It is not meant to imply that the effects of large public improvements can always be forecast, or that they can always be measured accurately even after these effects have had time to work themselves out. But it is believed that such studies as have been made afford ground for the following tentative deductions:

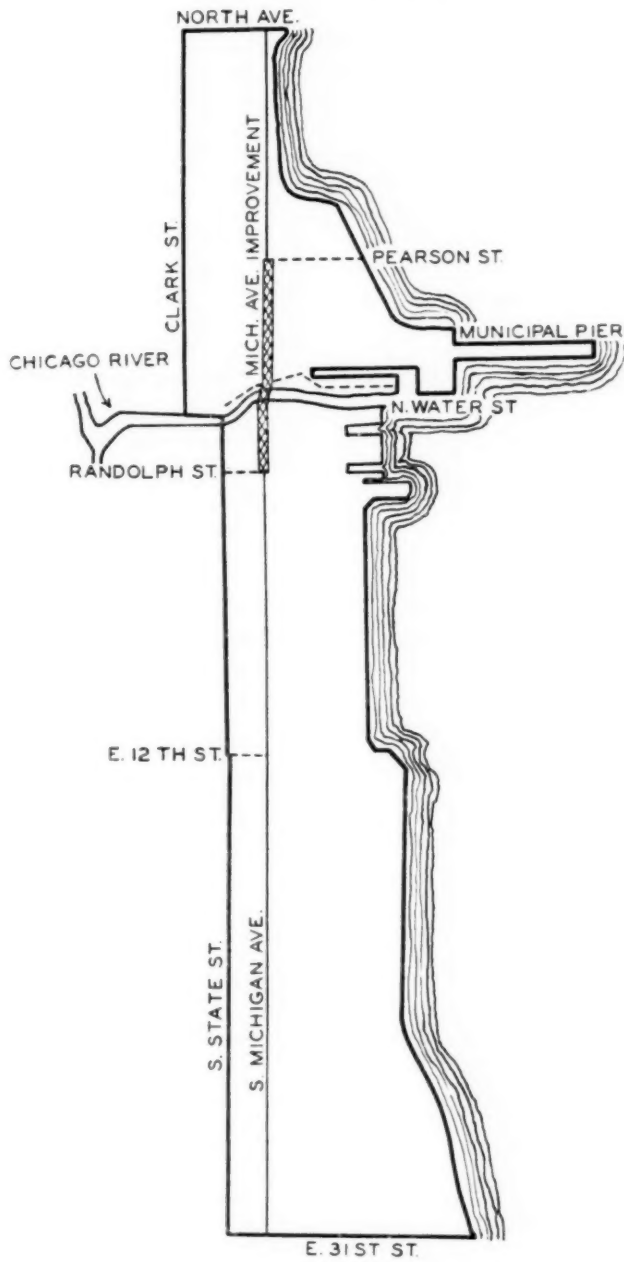
(1) It is doubtful whether large public improvements in the form of streets, highways, and transportation facilities add anything to the *aggregate of land values*.

(2) Such improvements will frequently be found to have definitely abstracted land values from other locations, an effect which has largely been concealed by the general appreciation of urban land values during the past two or three decades. If, however, we should have a period of relatively stationary urban land values, some of these situations are likely to come to the surface with startling clearness.

(3) The altitude of the crest of values that often accompanies these large public improvements would seem to imply a larger use of special assessments and less dependence upon general taxation in financing these improvements.

(4) While many considerations may

SPECIAL ASSESSMENT DISTRICT FOR MICHIGAN AVENUE IMPROVEMENT, RANDOLPH TO PEARSON ST.



properly enter into the determination of special assessment districts, it would seem that enough is now known of the behavior of land values to make it

entirely unnecessary to spread a special assessment over the trough that frequently follows in the wake of large public improvements.

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# Blighted Areas and Their Effects Upon Urban Land Utilization

By C. LOUIS KNIGHT

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THE phenomenon of rapidly growing cities is characteristic of the twentieth century. Within the brief period of the last thirty years, the United States has changed from a country predominantly rural in population to one predominantly urban. The influences involved in this rapid change are familiar to students of our economic and political history; therefore, no attempt will be made to describe them here. The extent and the significance of the change, however, are pertinent to our study and should be mentioned to provide a proper setting for the subsequent analysis.

## CONCENTRATION AND CITY GROWTH

In the period from 1900 to 1920, the population of the United States increased from 75,994,575 to 105,710,620, an increase of 29,716,045, or over thirty-nine per cent. In 1900, the urban population numbered 30,380,433; while in 1920 it numbered 54,304,603, having increased by 23,924,170, or over seventy-eight per cent. In 1900, the urban population represented forty per cent of the total, while in 1920 it represented fifty-one and four-tenths per cent. The increase in urban population during this period represented more than four-fifths of the increase of the total population.

The trend toward urbanization is further indicated by the fact that the number of cities with a population of 25,000 or more increased from 160, in 1900, to 287, in 1920, or less than eighty per cent, while the aggregate population of such cities increased

from 19,718,312 to 39,770,114, or more than one hundred per cent. Today more than one-fourth of the total population and more than one-half of the urban population live in twenty-nine metropolitan districts having 200,000 or more inhabitants each.<sup>1</sup>

This rapid shifting from the country to the city of a large part of our population has involved a tremendous concentration of people upon a comparatively small land area. Today more than forty million people, or over one-third of the total population, live, work, and play in but little more than one-third of one per cent of our land space.<sup>2</sup> If, instead of reviewing this change over a twenty-year period, we should start with conditions of a century ago, the contrast afforded would be even more striking.

## CONDITIONS AFFECTING LOCATION

When cities grow, certain parts grow faster than others. Business grows and pushes out into residential areas, and these areas then become less desirable for residential purposes. Perhaps an industry locates in or near a residence community, or heavy traffic

<sup>1</sup> U. S. Census, 1920, vol. 1, table 40, p. 63. The total population of 29 metropolitan districts was 29,233,582, in 1920, and 23,045,544, in 1910, or an increase of 26.9 per cent.

<sup>2</sup> *Ibid.*, tables 11, 40, pp. 24, 63. The land area of the United States in 1920 was 2,973,774 square miles. The area of 29 metropolitan districts was 6,816,110.3 acres, or 10,650.1 square miles. The density of population in 1920 in these districts, taken as an aggregate, was over 5,600 per square mile as compared with 35.5 for the country as a whole.

monopolizes the streets, or undesirable racial elements move in—all of these have the same effects. Changes, conditions, and events affect important, underlying factors or attributes of location in such a way as to render it less suitable for its previous usages. In the course of time the old residents will move away and those who take their places will be of a lower economic status. It becomes clearly apparent that the community as a place of residence has declined in desirability.

It is important to bear in mind that when any attribute of location is changed, this change is likely to be reflected in changes in other attributes with which it is closely related. Whether for better or for worse, the effect is cumulative.

If the changes affect the community detrimentally, development in the area will be retarded and will fail to keep pace with that for the city as a whole. It is to such areas that we apply the term "blighted." We may define the term "blighted area," therefore, as *any area in which economic development has been considerably retarded, as compared with the development in the larger area, of which the area under consideration is a part.* The term "blight," as used here, is synonymous with deterioration or decadence. A blighted area is one of economic retardation, physical deterioration, and economic decay. In attempting to ascertain whether or not any given area is blighted, a number of tests should be applied and the determination should not rest on any one measure.

Blighted areas may be found in either business or residential districts. They may include one block or extend over several blocks. They may be transitory or permanent. Where a residential area has fallen into a state of decadence because of the encroachment of industry or commerce and

there is the probability that the area will develop in the future as a commercial or industrial district, the effect of the blighting influence will probably be temporary. The area then is in a period of transition from a lower to a higher use. On the other hand, where the blight results from the proximity of a nuisance, it will probably exist until the nuisance is removed.

#### CONCERNING THE TERM BLIGHT

After all, a blighted area is a relative concept. We have stated that an area is blighted when its economic development has been considerably retarded, as compared with the development of the larger area, of which the area under consideration is a part, i.e., with the development of the city as a whole. The standard of comparison is represented by an average which may not coincide with the development of any one area within the city. An average is merely a type which is supposedly representative of the items in a given group.

The average which represents the development of the city as a whole, therefore, is supposedly representative of the development in all of the various areas in the city. If the average is the median of the group, there are as many items in the group above the average as there are below the average. This, however, would not necessarily be true if the average is the arithmetic mean of the items. But, regardless of the method used in ascertaining the average, there will always be some items above it and some below it, and the average will be influenced to some extent by each of the items, however large or small.

It follows, therefore, that we are not warranted in designating as blighted all areas in which the development over a period of time has been less than the average for the city as a whole.

In a broad sense, development in any such area may be considered retarded as compared with the areas in which the development is above the average, but if the terms "blight," "retardation," and "deterioration," as applied to land areas, are to have any practical significance, they must refer to those areas in which the retardation of development has been *considerable*. Whether or not an area is blighted becomes a question of the degree or the extent of retardation. In some cases, the retardation is so great that the area can be classified with little difficulty as blighted, but as we leave such cases of extreme retardation and consider other areas in which retardation is perceptibly less, we emerge gradually into a twilight zone in which classification becomes quite difficult and in which any attempt at classification is questionable.

While it is, of course, possible to set up an arbitrary dividing line and say that all areas are blighted in which development over a period of time is less than, let us say, fifty per cent of the average for the city, and that areas with a percentage higher than fifty per cent are not blighted, it seems inadvisable to attempt demarcation on a definite percentual basis. Except on the grounds of convenience, it would be very difficult to defend any such attempt.

Decisions in every case should rest upon careful consideration of all available data. In an analysis of a number of blighted areas in the city of Philadelphia, so designated by the Philadelphia Housing Association, it was found that three distinct types of blighted areas could be differentiated, namely, (1) a decadent business area; (2) a residential area in a stage of transition from a lower to a higher usage; and (3) a decadent residential area.

It was found that these three types had certain characteristics in common, while they differed in respect to other characteristics. The characteristics which they had in common may be listed as: (1) a dilapidated, run-down physical appearance; (2) a large proportion of vacancies, unused land space, and properties for sale and for rent; (3) decreased desirability for their former usage; and, as a consequence (4) smaller realizable current income for the area as a whole. The types differed in respect to causes of deterioration and to changes in sale prices and assessments as compared with changes for the city as a whole.

#### CAUSES OF BLIGHTED AREAS

The causes of blighted areas may be classified in two categories: (1) influences which make an area *absolutely* less desirable for the usage to which it is devoted; and (2) influences which make an area *relatively* less desirable for the usage to which it is devoted.

We may assign to the first category such factors as: (1) the encroachment of industry or business upon a residential area; (2) the ingress of undesirable neighbors; (3) the presence within the proximity of the area of a nuisance of any sort, such as heavy traffic, slaughter houses, swamps, marshes, insane asylums, penal institutions, and other things which annoy and cause inconvenience; (4) poor accessibility; (5) overcrowding, buildings which are too high relative to the width of the street, excessive concentration of population; and (6) destruction of neighborhood amenities.

To the second category we may assign all of those influences which draw people away from old business or residential sections and contribute to the growth of new areas, including such things as: (1) the development of

new subdivisions; (2) improved accessibility to outlying areas, and good roads, which, with (3) improved transportation facilities—automobiles, bus, trolley, and train service—permit people to live farther from their work where living conditions are less crowded; and (4) the shifting of industrial plants from one part of the city to another, causing workers to move near their places of employment.

These lists are not intended to be exhaustive, but to suggest only the sort of influences to be classified in either category. It will be noticed that the effect of the influences in the first category is to *drive people away*, while the effect of those in the second category is to *attract people away*.

Where influences of the first sort are present, the area, whether used for business or for residence purposes, becomes absolutely less desirable for the customary usage, and rentals and prices are likely to decline not only relatively, but absolutely. Influences of the second sort make an area undesirable not absolutely, but only in comparison with other areas, and they are likely to be followed by influences of the first sort. Rentals and prices will probably be maintained for some time and will then begin to decline when influences of the first sort set in.

Influences of the first sort tend to bring about a rapid decline in the area, while the effects of influences of the second sort work themselves out gradually over a longer period.

#### CAN BLIGHTED AREAS BE PREVENTED?

The question as to whether or not blighted areas can be prevented is often answered by pointing out the merits of social control of land usage through zoning and city planning ordinances. Such control has for its purpose the prevention of nonconforming land usage, which is deterrent in its effect

upon economic development and upon land values in the affected area. It aims to preserve the desirability of residential areas, for instance, from destruction through the encroachment of business or industry. It seeks to accomplish its ends by designating certain areas to be devoted to residential, business, industrial, recreational, and public usage, with various subdivisions under each of these general classifications.

There is little doubt that a wisely directed policy of zoning and city planning will be an effective influence in preventing the deterioration of areas resulting from the encroachment of nonconforming land usages. On the other hand, the framers of such a policy are confronted with the problem of ascertaining the highest economic usage for land in different sections and providing for such expansion of the various usages as will become necessary in the natural course of the city's growth. If the policy followed is rigid in its application and is not adaptable to the requirements of changing conditions, the development of some areas will be arbitrarily checked by not being allowed to pass from a lower to a higher usage.

As cities grow, business, in the natural course of economic development, tends to push out into residential areas and, in the course of time, higher land values follow in its wake as the period of transition nears the stage of completion. If this movement is hindered and business development is confined within rigid borders, there will then appear a sharp differentiation between the increases in land values within adjacent areas, which is one of the characteristics of blighted areas, although the physical evidences of retardation and deterioration may be absent.

If the zoning and planning policies



followed are sufficiently flexible to permit business development to expand into adjacent residential areas, the movement will have the effect of decreasing the desirability of the areas for residential usage and of inducing a transitory condition of blight. But in the course of time higher land values will result because of the transition to business usage.

It is thus seen that under the first alternative the residential character of the neighborhood is maintained and existing values are preserved at the expense of higher possible values later on. Under the latter alternative, the desirability of the area for residential usage is destroyed in the interest of a higher ultimate usage accompanied by higher land values.

It becomes necessary to choose between these two alternatives. Perhaps no rigid formula should be prescribed. Each case should be decided upon its merits, with the application of judgment based upon careful study of all affecting conditions. When it becomes clear that there is real need for the expansion of old business areas, their boundaries may be extended into residential areas. Until such a need is clearly apparent, however, the residential areas may be protected against the sporadic incursions of certain types of small businesses which, in the absence of regulation of land usage, usually initiate the declining condition long before the need for business expansion warrants a change in the areas.

#### GOAL OF REGULATION

The question arises in this connection as to what is the desideratum to be achieved by any policy of social regulation of land usage. Shall the goal be the highest possible concentration of land values? Or shall it be a diffusion of land values through an

adaptation of land usage to the needs for land such as will promote the greatest social welfare?

The first result can be achieved by increasing the concentration of population and by utilizing land more and more intensively; carrying its use far beyond the point of diminishing returns, with the consequent constantly increasing costs of production involved. Such a goal appeals to the individual land owners in the centers of our cities who find their rentals increasing and a larger and larger share of the social income accruing to their benefit. The increasing concentration of people within limited land space, however, is attended by many ills which are so well known as not to require extended enumeration here.

Achievement of the second result involves a careful allocation of land among its various uses and the formulation of wise policies of direction and administration. Such a plan is not conducive to the highest possible concentration of land values since it arbitrarily restricts the concentration of people within limited areas. It involves, moreover, the subordination of individual and class interests to the higher social good.

#### DETERIORATION INEVITABLE

As has already been pointed out in a previous section, the encroachment of nonconforming land usages upon residential and business areas is but one of many causes of deterioration. While social control of land usage may prevent to some extent the operation of this cause, there are many others which are just as sure and effective in their operation. Some of them are bound up with, and are inseparable concomitants of, city growth. They are those influences which exert their effect by *attracting* rather than by *driving* people away from old estab-



lished business and residential areas.

The building of the Delaware River Bridge, a monument to engineering achievement connecting Philadelphia with Camden, contributed largely to the deterioration of a formerly prosperous business area by diverting traffic along different routes. The development of new residential subdivisions and suburban areas attracts people away from old residence sections. The building of good roads, the increasing use of automobiles, and other improvements in transportation, enable people to live farther from their places of employment, in districts where living conditions are better. As new residential areas develop, new business areas develop conveniently near by and detract from the patronage of the old areas. These and many similar influences are constantly at work in growing cities, building up new areas at the expense of the old. As long as they operate, blighted areas are inevitable. To prevent deterioration by the elimination of these causes would be to prevent a smaller loss by incurring a bigger loss. It would mean definitely checking city growth and substituting a static condition for a dynamic condition.

There are other causes of blight

which can be prevented if legal sanction can be obtained. These causes operate by *driving* people away, and include: the ingress of undesirable racial elements into a neighborhood; heavy traffic through residence areas; the presence of nuisances; the destruction of neighborhood amenities, and other similar influences. In the absence of laws directly permitting the prevention of these causes, much can be done toward preserving the character of an area by restrictive covenants in deeds of conveyance. If the restrictive covenants are of permanent duration, however, they may sometimes be detrimental in preventing a desirable change in land usage.

In conclusion, it may be pointed out that while it is possible to eliminate to a large extent the influences making for deterioration which operate by decreasing absolutely the desirability of areas and *driving* people away, other influences which operate by *attracting* people *away* and making areas relatively less desirable for their former usage make blighted areas practically inevitable in growing cities. While it may not be possible to prevent them altogether, organized private and public effort can do much to lessen the degree of deterioration.

# The Operation of the Graded Tax Law in Pittsburgh

By THOMAS C. McMAHON

Chief Assessor of the City of Pittsburgh, Pittsburgh, Pennsylvania

WHAT is known as the graded tax law on buildings for cities of the second class in the State of Pennsylvania was enacted in 1913, and began to function in 1914. On January 1, 1925, the law became fully effective. Therefore, the graded tax law should be considered as something that we have had in actual operation only since 1925.

The system of assessing real estate for taxation purposes in the city of Pittsburgh does not differ materially from the assessment system in force in other large cities throughout the country. Land and buildings are assessed separately, as in New York, Boston, Cleveland, Detroit, and other large cities. The graded tax plan does not involve any discrimination in our treatment of land and buildings, in so far as appraising the value for taxation purposes is concerned. It is entirely a matter of fixing separate tax rates. The Department of Assessors furnishes the total assessed valuation of land and the total assessed valuation of buildings to the City Council. After the amount of the city budget is known, the City Council determines the tax rates for city purposes. The Council fixes two separate rates, one rate to apply to land and the other rate to apply to buildings. The building tax rate, according to the law, must be one-half of the land tax rate. Pittsburgh, therefore, does not really have a tax on real estate as that term is generally understood in speaking of taxation in American cities. In place of a general real estate tax, there is a land tax and a building tax, and while it is possible to

arrive at the average real estate tax for the city as a whole we do not speak in terms of a real estate tax. The average would, of course, differ in almost every individual case, depending entirely upon the relative value of the land and of the building in each individual assessment. But, there is absolute uniformity in the taxation of all land and in that of all buildings. Pittsburgh levies no tax whatever on personal property, machinery, and so forth, standing alone, among the large cities of the United States, in this respect.

## INCREASED BUILDING CONSTRUCTION

It is my judgment that the full effects of the graded tax plan have not yet been attained, nor will they be attained until a fuller use is made of all the land within the city of Pittsburgh. In the downtown business district, there has been a greater amount of building in the "Golden Triangle" during the past six years than during a period of fifteen years previous to that time. Due to economic conditions, land formerly used for blast furnaces and rolling mills is now utilized for warehouses and light manufacturing buildings, the latter being several stories in height. In property used for housing purposes a most notable change has taken place. The number of single dwellings, duplexes, and apartments erected during the past six years has been greater than those erected in twice that length of time during any previous period in the history of Pittsburgh. Housing construction has progressed to such an extent that land suitable

for such development is becoming very scarce. Many of the large estates, where formerly a building of palatial dimensions occupied a large tract of land, have been taken over by developers who have laid out the acreage in fair-sized lots and have erected residences thereon. These three classes of property, i.e., high-grade business property, industrial property, and housing property, have been benefited by a lighter burden of taxation under the graded tax plan than they would have if the flat tax rate system had been in force. In the years to come, when further development takes place, a full realization of the benefits of the graded tax system will be found. We can say, at least, that the man who does something is not being penalized by having a heavy tax burden placed on the buildings which he has erected, no matter for what purpose.

No claim is made that the graded tax law effects a saving in taxation to the community as a whole. A certain amount of revenue must be obtained to defray the expenses of the city government. The allocating of this cost of government is made, however, in a different manner from that employed in other American cities, with the result that certain properties are contributing a smaller amount to the cost of government while other properties are contributing more. Classifying again the three types of real estate, i.e., business, manufacturing, and residential properties, we find with regard to business properties that those where the site is highly developed are paying less in taxes under the Pittsburgh plan than they would pay under the flat-rate system. In those cases where the land and building values are about equal, the tax is approximately the same as it would be under the old flat-rate system. In the case of those properties improved with buildings of

lesser values than those of the sites, a greater amount is paid in taxes under the graded tax than would be collected under the flat-rate system. The majority of business properties in the downtown district are in the latter class, owing to the very high land values prevailing in the "Golden Triangle." These high land values are the creation of all the people in the community who, while living away from the business district, do business in that section and thus make it valuable for business purposes. The site value is what pays the largest proportion of the taxes in any business district in Pittsburgh, and this value is better able to pay the taxes than are the improvements. In a great majority of the cases the site receives an annual increment, while the structure thereon suffers an annual depreciation. We find outstanding examples of increased land values in some of our prominent corners in Pittsburgh.

#### INCREASE IN LAND VALUES

The Park Building occupies a site one hundred and twenty by one hundred and fifteen feet, on the northwest corner of Fifth Avenue and Smithfield Street. The lot was purchased by Mr. Park from the United States Government in 1893, at a cost of \$433,000. Recently a reported appraisal on this lot was \$2,750,000, an increment of \$2,316,500. This increase in value is not the result of any individual effort, but is a result of the activities of the entire community.

On the southwest corner of Fifth Avenue and Smithfield Street there is located a lot twenty by sixty feet. In February, 1895, this lot was appraised by three of Pittsburgh's leading real estate brokers. The appraisal was made for the Orphan's Court in a partition proceeding. A value of \$81,720 was placed on the property, land,

and building. Today this lot is leased for \$30,000 per year, net. The building is owned by the tenant. The capitalized value of the lot is \$600,000, or an increment of \$518,280 in thirty-four years.

On the southeast corner of Fifth Avenue and Wood Street is a lot sixty by forty-eight feet, which was sold in December, 1863, by Henry Sterling to Zodock L. Eisner, for the sum of \$28,500. In May, 1929, the Eisner estate sold this property to the United Cigar Company for \$850,000, an increase of \$821,500. The new owners removed a very old six-story building from the lot and erected thereon a three-story building.

On the southwest corner of Fifth Avenue and Wood Street the Goehring estate owns a lot sixty by forty feet. This property has been in the Goehring family for many years. In December, 1897, an heir sold a one-eighth interest for \$18,000, or \$144,000 for the full value of the property, as appraised at that time. The estimated value of the property today is \$750,000. The increment is \$606,000 in thirty-two years.

The Jenkins Arcade property, located in Liberty Avenue, Fifth Avenue, Penn Avenue, and Stanwix Street, was assembled, between 1884 and 1889, by the present owners. They paid \$244,500 for the parcels, comprising a site of 46,350 square feet. The present-day value is \$3,800,000, in the opinion of local real estate experts. In forty years the community has increased the value \$3,556,000, or fifteen times the original purchase price. The parcel is occupied by a seven-story office building. It is one of the best paying properties in Pittsburgh.

The "Golden Triangle" is not the only place where these enormous community-created values exist. Five miles from the center of the business section is the East Liberty district, a

high-grade residential neighborhood. The East Liberty business center is in Penn Avenue, between Highland and Center Avenues.

On the northeast corner of Penn and Highland Avenues is a lot with a thirty-seven foot frontage on Penn Avenue, and one hundred and fifteen feet on Highland Avenue. A chain cigar store company recently paid \$425,000 for this lot. The very old two-story building occupying the lot has little value. G. G. Rauhauser, in 1883, paid \$5,000 for the property, the lot being forty-three by one hundred and fifteen feet. The city of Pittsburgh widened Highland Avenue, taking a width of six feet along Highland Avenue, paying well for the privilege. Forty-five years before the time of selling, the Rauhauser heirs received an increment of \$420,000 over the purchase price of the property, or eighty-five times the price paid by their father.

On the southwest corner of Penn and Center Avenues is located the City Deposit Bank, a one-story building. Thirty years ago the present owners paid \$18,000 for a lot fifty feet on Penn Avenue, averaging one hundred and five feet through to Center Avenue. Today this site is conservatively valued at \$350,000, or an increase of \$332,000. The value today is twenty times the price paid in 1898.

Adjoining the City Deposit Bank on the west side is the Thomas Moreland property. In 1884, Thomas Moreland, Sr., purchased one hundred and seven feet on Penn Avenue, having an average depth of two hundred and ten feet, for the sum of \$18,600. The property is leasing today on a basis of \$750,000. The people doing business in the East Liberty district have increased the value of this property \$731,000, or forty times the original purchase price. This site is occupied by a three-story building.

The properties referred to here are examples used by opponents of the graded tax law in an attempt to prove the unfairness of the law when applied to this class of properties.

With the exception of the Park lot, the buildings on these properties are from two to six stories in height.

Skyscrapers, i.e., the portion of the building above the second or third story, show a very low return on the investment; and where a return above normal is shown for a skyscraper, it comes from the ground floor rentals. A vast majority of the best paying business sites in the city of Pittsburgh have buildings that do not exceed four or five stories. It is my contention that the tax levied on business properties is unfair, where the burden is placed on the property that is highly developed by having a tall building erected thereon, for the overhead expenses of these buildings, together with annual depreciation, very often leave but a small return on the invested capital.

An important feature of the Pittsburgh plan of taxation is that the business man who pays a heavier share of taxes on his land is exempt from any personal property taxes whatsoever for city purposes. Industry is similarly exempt.

#### INDUSTRIAL PROPERTY

Industrial property in the city of Pittsburgh is undergoing a change. The rolling mills and blast furnaces are seeking locations outside the city, where the opportunity for expansion is better. As previously mentioned, land formerly occupied by such mills and furnaces is now being used by warehouses and light manufacturing buildings. While, in some cases, these properties pay a heavier tax under the Pittsburgh plan than they would under a flat rate, many of the properties are

paying less in taxes, due to the fact that the building value is greater than the land value. Industrial property in Pittsburgh is benefited by the Pittsburgh tax plan because we do not tax machinery, raw material, or finished products, upon which, in many communities throughout the country, the manufacturer is required to pay taxes.

A noticeable effect of the graded tax plan is that which we find in the case of industrial property which has been held at a selling price far in excess of that which a manufacturer would be justified in paying for a suitable site. Such property has since been placed on the market at a much lower selling price than was asked previous to the full operation of the graded tax plan, and numerous sites have been sold at a dollar and a half to two dollars per square foot which were previously held at four to five dollars per square foot.

Opponents of the graded tax plan have stated at times that the plan is not proving of benefit in the way of reducing land values, but rather that an increase in land values has taken place. In support of their contention, they refer to increases in assessments of industrial properties in Pittsburgh between 1913 and 1928. These increases in the assessed valuation of land actually represent a revision of incorrect assessments made in 1916, and the fact is that some of these industrial properties have actually sold for less than the assessment in 1927-1928, with the result that a revision of the assessments downward has since been made to correspond with these sales.

It is my judgment that ninety-five per cent of the housing properties in Pittsburgh are benefited through tax savings by the graded tax plan. A complete analysis was made of a typical home-owning ward, and in this



ward out of a total of 3,272 owners of improved properties it was found that 3,250 pay from thirty per cent to five per cent less in taxes by reason of the graded tax plan. It is my conviction that these are the properties that should receive the greatest consideration because the land values of this type of property remain stable, whereas building values suffer an annual depreciation. The wealth invested is gradually decreasing, while these same people are helping to create the increased wealth in the form of land values in the business section of the city.

In all fairness, I wish to say that I make no claim that the graded tax plan has been responsible for all the increased building operations in Pittsburgh, but I would rather say that the building operations have been a natural development in the growth of the community. I do maintain, however, that the owners of the properties that have been well improved have a lighter tax to pay under the Pittsburgh plan than they would have under the old flat-rate system. This belief is based upon the number of inquiries that have come to me from those wanting to know what their taxes would be if they built a home in a certain district, as compared with what their taxes would be on a similar home built outside the city in one of the adjoining boroughs. In such cases, the tax estimates made by me almost invariably resulted in the inquirer's building within the city of Pittsburgh.

With regard to rents, it is my contention, based on an actual survey made in fourteen of the large cities of the country, that no fair comparison can be made between housing conditions in Pittsburgh and those in other cities. Properties compared as to type of construction, location of the properties, and the facilities afforded, vary so

greatly in the different cities that a common denominator cannot be used such as is necessary to arrive at a proper conclusion as to the rate per room or the rate per apartment or house.

I do not claim that the graded tax plan has had any particular effect on rentals in Pittsburgh. Abnormal conditions have existed in renting properties for housing purposes during and since the war, but it is only fair to draw the conclusion that, all things being equal, when a landlord pays a lower tax through the graded tax plan it should result in a lower rental, as the owner can then afford to rent for less.

Pittsburgh cannot be compared with many other cities with respect to tax rates, due to the fact that our entire tax revenue is derived from real estate, while many other cities have a revenue from personal property and public utility taxes equivalent to thirty per cent of their entire revenue. Neither of these sources of revenue is available in Pittsburgh.

#### TAXPAYERS FAVORABLE TO GRADED TAX PLAN

Since the graded tax plan has been fully effective, I have been in close touch with the situation, due to my position as Chief Assessor of the city of Pittsburgh. So far as I can learn, no serious objection is offered to the present tax plan. The taxpayers of the community as a whole seem to have accepted the graded tax plan, and it has been, and is today, strongly endorsed editorially by all the daily newspapers. Furthermore, every member of the City Council, the men who determine our tax rates, is on record in favor of the present Pittsburgh tax plan which, as explained above, has as its two principal features the graded tax and the exemption from taxation of personal property, machinery, and so forth.

The best answer to the charge that the graded tax plan is a menace to the growth and welfare of the community is to be found in the fact that Pittsburgh has had its most remarkable development in the Pittsburgh district since 1924, when the graded tax plan came into full operation. The United States Steel Corporation is spending in the Pittsburgh district \$100,000,000 in expansion and improvements. During 1927-1928, the amount of building operations, wherein the buildings cost \$100,000 or more, amounted to \$100,000,000. The three great trunk lines entering Pittsburgh, i.e., the Pennsylvania Railroad, the New York Central Railroad, and the Baltimore and Ohio Railroad, are spending more than \$80,000,000 in terminal expansion and improvements. Allegheny County, in 1928, started public improvements

amounting to \$45,000,000. The city of Pittsburgh, between 1924 and 1928, spent \$35,000,000 in public improvements. Two important public utilities, i.e., the Bell Telephone Company and the Allegheny Heating Company, have an improvement program of expansion under way wherein \$25,000,000 is to be expended. In 1922, bank clearings in the city of Pittsburgh amounted to \$6,800,000,000; in 1928 they were \$9,450,000,000, or fifty per cent more than the city of Cleveland in that year, and three times the amount of the city of Cincinnati. These two cities are in the same Federal Reserve district as the city of Pittsburgh.

After a careful study of conditions in the Pittsburgh district, I am thoroughly convinced that Pittsburgh's tax plan aids that city in promoting progress,

# A Critical Analysis of the Operation of the Pittsburgh Graded Tax Law

By EDWARD F. DAUME

Chairman, Committee on Taxation and Assessments, Pittsburgh Real Estate Board, Pittsburgh, Pennsylvania

THE municipal tax system under which the city of Pittsburgh levies and collects its taxes on real estate became fully effective in 1925, at which time the city began to fix a tax rate upon building values at one-half the tax rate upon land values—that being the ultimate objective of the act of the Pennsylvania legislature of 1913, known generally as the “Graded Tax Law.” It was the gradual process of its introduction which caused it to be so designated, and since common usage has established the title it is probably as distinctive as any other.

The Pennsylvania legislature, by the 1913 act, provided for a gradual introduction of this method of taxation for cities of the second class; of these there were then, and are now, only two in the Commonwealth, namely, Pittsburgh and Scranton.

## INTRODUCTION OF LAW

The first two years under the operation of the law, beginning with 1914, these cities were required to allow on all taxable building values a reduction of ten per cent from the tax levied on land values, and thereafter during each successive triennium a further or additional reduction of ten per cent was to be allowed, until the total reduction equaled fifty per cent of the rate on land values.

This limit was reached after five successive steps in 1925; and since then Pittsburgh building valuations pay a city tax rate of one-half that levied on land values.

The successive rates were as follows:

Year	Land Tax	Building Tax	Per Cent
	Mills	Mills	
1914.....	9.4	8.46	90
1915.....	10.2	9.18	90
1916.....	12.6	10.06	80
1917.....	11.5	9.20	80
1918.....	14.5	11.60	80
1919.....	15.7	10.99	70
1920.....	19.0	13.30	70
1921.....	20.0	14.00	70
1922.....	20.0	12.00	60
1923.....	20.0	12.00	60
1924.....	20.0	12.00	60
1925.....	19.5	9.75	50
1926.....	22.4	11.20	50
1927.....	22.4	11.20	50
1928.....	25.0	12.50	50
1929.....	25.0	12.50	50
1930.....	26.0	13.00	50

These levies do not, however, cover all the taxes on real estate in Pittsburgh.

For the purpose of clarity, it is perhaps necessary to relate here, and to keep in mind throughout this discussion, that in the city of Pittsburgh there are three separate and independent taxing units or municipalities, each having the power to levy and collect taxes on real estate.

There is, first, the city of Pittsburgh, whose tax system is here under discussion; next there is “the School District of Pittsburgh,” coextensive, so far as territory is concerned, with the city of Pittsburgh; and thirdly, there is the county of Allegheny, embracing in its territory and taxing jurisdiction the “city of Pittsburgh.”

## INCREASING RATE OF TAXATION

As shown by the foregoing table, during the fifteen years of experience with the graded tax law, the rate of taxation on both land and buildings has been steadily advancing.

The city's rate of twenty-five mills on land and twelve and one-half mills on buildings in 1928 and 1929 equals eighteen and nine-tenths mills on both. That is to say, if there were no graded tax law it would have required a flat or normal rate of eighteen and nine-tenths mills to produce a revenue equal to that derived from land and buildings in the last mentioned years, under the existing method of taxation. Consequently, Pittsburgh real estate, during the past two years, has been subject to the following tax rates:

	Mills	Per Cent
City levy .....	18.9	.0189
School levy .....	11.5	.0115
County levy .....	7.375	.007375
Total .....		.037775

During the period from 1913 to 1929, the assessed valuations of real estate, both land and buildings, rose from \$758,336,910 to \$1,136,606,150, and the bonded indebtedness of the city rose from \$32,142,100, in 1913, to \$61,507,000, in 1929.

This last item must be taken into account when comparing the present tax rate with that which obtained in the earlier year, for the reason that the many large improvements of recent years were not paid for out of current revenues, and therefore figure in the rise of taxes only in the form of debt service or interest and sinking fund charges, and quite a considerable number of costly repairs and replacements were financed with bond issues.

## LAW DOES NOT REDUCE TAXES

I am not reciting these increases in tax rates to show the effect of the graded tax law, but rather to correct the prevalent error that Pittsburgh's taxation experiment has reduced taxes. While I do not purpose to attribute this progressive rise in tax rates to the graded tax law, a rather careful analysis and computation has convinced me that it is responsible for some of the advanced rates. The advance I have found has been caused by the decrease in the ratio between building and land values. In other words, as these two items have been approaching each other, there has arisen the necessity for greater rates on both land and buildings to produce the same aggregate of revenue. The effect is the same as that produced by the increasing aggregate of tax-exempt properties.

Probably this theory or problem can be demonstrated by the following figures. In 1914 (the first year of the graded tax law) Pittsburgh's assessed land valuations reached \$480,000,000 and its building valuations amounted to \$282,000,000, or approximately sixty per cent of the land valuations. The city in that year raised in revenue from real estate taxes \$7,117,603.66, its tax rate being nine and four-tenths mills. In 1929, land values had increased to \$574,000,000 and building values had increased to \$558,000,000, or approximately to ninety-seven per cent of the land values. To produce the necessary revenue from real estate taxes in that year, there was required a rate of twenty-five mills on land and twelve and one-half mills on buildings. Had the ratio between land and building values remained the same as that of 1914, namely, sixty per cent, or let us say, \$700,000,000 for land and \$420,000,000 for buildings, the same revenue could have been raised by a rate of

twenty-three and one-half mills on land and eleven and three-fourths mills on buildings.

To further test this problem, let us take the taxes on lesser figures. Take a property of the value of \$19,700, of which \$10,000 represents the land value and \$9,700, the building value (that being ninety-seven per cent of the land value). The tax at the rate of twenty-five mills on land is \$250; the tax at the rate of twelve and one-half mills on building is \$121.25; or a total of \$371.25.

If the ratio of building value to land value had remained at that which obtained in 1914, namely, sixty per cent, the distribution of value on the same property would have been represented by the following: land, \$12,300; building, \$7,400; or a total of \$19,700. To produce a like revenue from this property there would have been required a rate of only twenty-three and two-tenths mills on land and eleven and six-tenths mills on buildings; or a difference, respectively, of one and eight-tenths mills on land and nine-tenths mills on buildings.

The assessor's report for 1930 shows that building values now exceed the land values, being \$576,702,320 on land and \$584,700,610 on buildings, making a difference of \$7,998,290 in favor of buildings; and as this difference continues to increase, the tax rate must automatically respond—and more greatly so, if land values are depressed by reason of excessive and burdensome taxes. The only hope for a mitigation or relief from the effects of this process lies in the annexation of suburban boroughs and townships having large areas of vacant land.

It is quite reasonable to assume that the full effect of the graded tax law has been retarded and mitigated by its graduated introduction, and also by the fact that only the municipal tax burden of the city (exclusive of the

school and county tax) has been distributed by its method.

#### REPEAL OF CLASSIFICATION LAW

However that may be, in appraising its effect due consideration must be given to another act of the Pennsylvania legislature. I am now referring to the act of 1911, whereby the classification of real estate for the purpose of taxation was repealed. This classification law had its origin as early as 1867. It developed gradually by acts of the legislature, and finally, in 1897, had fully intrenched itself in the taxation system of Pittsburgh. By this legislation, Pittsburgh had three classes of real estate: "built-up," paying the full rate; "rural," paying two-thirds the full rate; and "agricultural," which, up to 1909, paid one-third and by the act of the last named year paid one-half the full rate.

The repeal of this classification law increased materially the burden of land taxes in the rural and residential wards of the city, consisting so largely of vacant tracts of land and extensive residential holdings, many of them maintained as private parks, adding beauty to their environments, creating a number of distinctive residential neighborhoods and districts, and firmly establishing and increasing values of adjacent properties. It was estimated at the time of the enactment of the repealing legislation that it meant an increase of fifty per cent in taxes on property worth \$212,748,681.

#### PRIMARY OBJECT OF LAW

The primary object to be achieved by the graded tax law, as urged by its promoters, and still claimed by many of its defenders as its justification, is to increase the burden of vacant land ownership, forcing it into the market, and thus reduce its selling price. If the principle upon which this theory is



based be correct, the graded tax law and the repeal of the classification law should have the same general effect upon land values. Since this effect in Pittsburgh's experience cannot be separated, or appraised separately, in any study of the one or the other, the result observed must be taken as produced by the simultaneous operation of both acts, and therefore enlarged and intensified.

Hence, it seems to me, that I can submit to any student of municipal taxation, as an obvious proposition, that the experience of the city of Pittsburgh under the gradual introduction of the 1913 act, supplemented by the repealer of 1911 (which in its full effect became immediately operative), was as severe as though the graded law had alone been in full operation, and that it should sufficiently test the theory that excessive land taxation produces lower land values.

A further element affecting the city's direction and volume of growth introduces itself into this study, creating further problems and difficulties in measuring the results of the two foregoing agencies. This element is the broken and uneven topography of Pittsburgh, hills and valleys composing the physical characteristics of the city. These surface features had to be surmounted and overcome in its development. Prior to 1913, transportation facilities were those of the trolley systems and steam railroads, which had followed as nearly as possible the lines of least resistance. Built-up sections clustered closely about these lines, leaving the more remote and more inaccessible territory of the city largely undeveloped.

Since then the automobile and the motor coach have made these districts available and have made it possible for many home owners to reach these distant and difficult-of-access sections

of the city. It is impossible correctly to judge the volume of home-building for which this factor is more immediately responsible. Some credit, however, must be accorded to these enlarged transportation facilities. To elaborate upon this feature would only unduly lengthen this study; therefore, it is only introduced here as a suggestion for further inquiry.

#### DISCRIMINATES AGAINST BUILT-UP PROPERTIES

I have found, even among those otherwise well informed on tax matters, the idea prevailing that under Pittsburgh's graded tax law the higher rates are levied only on land kept out of use. Such, however, is not the case. The higher tax is levied on all land within the city, both vacant and improved; therefore, I shall try to show its discriminatory effect upon built-up properties, particularly as it applies to those in the first two wards of the city, comprising the downtown section, which offers a good example of built-up properties, there being very little vacant land in these wards.

The city has a number of tall buildings. One of the largest construction companies of the country, in a recent skyscraper survey, credits Pittsburgh with fifty-two buildings ten to twenty stories high, and fifteen buildings twenty-one or more stories high. This agrees closely with my count. All but a few are in the downtown district. They occupy a considerable area in the lower city. There is, however, a much larger area covered with buildings of two, three, and up to eight and nine stories, in height. These buildings have their uses and are important component parts in the mass structure of the city. Their proportion to the taller buildings is not an unusual one. The sky line of Pittsburgh is very much like that of most large modern cities.

Of the twenty-one millions of dollars in taxes levied in 1929 against real estate, seven and one-half million dollars were contributed by Wards One and Two. These two wards comprise an area of five hundred and thirty-seven acres. Eliminating about one hundred and sixty acres occupied by streets, another one hundred and sixty acres owned by the railroads, and a further seventeen acres occupied by public buildings and other tax-exempt properties, we have a net area of two hundred acres, of which area not more than eighteen and one-half, or possibly twenty acres, are covered with buildings paying the normal or less than the normal rate of taxation. By normal rate I mean the rate which would obtain if the city did not have the graded tax system and raised its revenue by a uniform tax rate.

A rather comprehensive and careful analysis for 1929 disclosed that these tall buildings pay in the aggregate approximately one million dollars, or less than one-seventh of the taxes produced by the triangle wards; six-sevenths of the taxes are paid by the other one hundred and eighty acres covered with buildings of a size and bulk not sufficient, when compared with the land value, to get the advantage of the lower rate on buildings. These properties, not being so fully improved, do not have the larger revenues, and are consequently less able to pay. They do not add so much to the cost of government as do their more fortunate neighbors, yet they must bear the greater burden, and will do so as long as they are not adequately improved, for the benefit of the more fully built-up properties. The larger buildings are constantly absorbing the volume of valuable tenants at the expense of the underimproved properties. The one hundred and eighty acres of land area paying six-sevenths of the

revenue from the district are penalized for the benefit of the twenty acres paying one-seventh of the revenue; and there is not much prospect of any relief for years to come.

Pittsburgh has been about thirty-five years in building and absorbing the space afforded by these large buildings. The Grant Building and the Koppers Building, completed in 1929, added about one million square feet to the available office space in the city. No one can foretell how soon another twenty acres of buildings of this kind will be required to meet the demand, and until then, under Pittsburgh's inequitable system, the tax-burdened underimproved properties must submit to an unequal share of the city's cost of government.

#### INEQUALITIES IN TAXATION

My studies have shown such lack of uniformity in taxation as the following contrasts. In the block bounded by Smithfield Street, Grant Street, Fifth Avenue, and Oliver Avenue, occupied by the Mellon Bank Building, the Union Trust Building, the Henry Hotel, and other buildings, the land is assessed at \$7,217,300; the buildings, at \$5,124,000. Taxes aggregate \$244,482, or a shade less than two per cent on the assessed valuations.

In the block bounded by Smithfield Street, Diamond Street, Fourth Avenue, and William Penn Way, the land is assessed at \$2,601,780, and the buildings, at \$265,830; the aggregate city tax amounts to \$68,367, or at the rate of 2.38 per cent. The large department store, eleven and twelve stories high, occupying the block bounded by Smithfield Street, Fifth Avenue, Diamond Street, and William Penn Way, pays 2.1 per cent taxes, while the adjoining block bounded by Grant Street, Fifth Avenue, William Penn Way, and Diamond Street,

covered by the Frick Building, the Frick Annex, and the Carnegie Building, pays only 1.81 per cent city tax. There are the following comparisons to be made.

The Park Building, at Fifth Avenue and Smithfield Street, fifteen stories high, occupies a lot one hundred and twenty by one hundred and ten feet, and pays a tax rate of 2.23 per cent. The Carnegie Building, on Fifth Avenue, between Smithfield Street and Grant Street, fourteen stories high and occupying a lot one hundred and twenty by one hundred and ten feet, pays a rate of only 1.88 per cent.

Name of Building	Number of Stories	Per Cent
Benedum-Trees Building...	18	1.57
Professional Building.....	10	1.58
Law and Finance Building...	21	1.56
Empire Building.....	12	1.54
Columbia Bank Building.....	10	2.00
Standard Life Building.....	12	2.00
Pittsburgh Trust Building...	10	2.10
Chamber of Commerce Building.....	16	1.90
Frick Annex.....	19	1.72
Union National Bank Building.....	21	1.72
Federal Reserve Building...	9	1.72
Bessemer Building.....	13	1.75
Fulton Building.....	13	1.77
Westinghouse Building.....	12	1.70
Campbell's Store.....	8	2.30
State Theater Building.....	8	2.26
Pittsburgh Life Building...	6	2.30
Jenkins Arcade.....	8	2.17

Forty-one buildings in the downtown district which were examined and compared have tax rates ranging from 1.54 per cent to 2.45 per cent, a difference of .91 per cent between the lowest and highest rates. Commercial buildings and retail stores from six to twelve stories high range from 1.78 per cent to 2.22 per cent. Apartment buildings, usually built on less valuable

land, have tax rates ranging from 1.32 per cent to 1.42 per cent. Manufacturing properties, whose land holdings as a rule are extensive as compared to their building values, have rates ranging from 2 per cent to 2.4 per cent.

I believe that in the foregoing there can be found sufficient evidence to show the great inequalities in taxation produced by this system, discrimination prevailing even among similar properties.

#### ARGUMENTS OF PROMOTERS

Those who favor this discrimination, in their promotion and defense of the law, claim this factor as a great advantage, producing benefits by its operation. In order that we may test the effects of the law and prove or disprove their theories, I shall quote from some of their printed matter, published at about the time of the adoption of the law, so that we may know just what results were to be achieved. I quote almost verbatim from a *Bulletin of the Civic League* of 1912:

The higher taxes on land would induce owners to place land on the market by making it harder to hold land vacant. . . . As owners become more anxious to sell, the price of land would tend to decrease; thus, prospective industries could secure sites at more attractive prices. . . . All this would tend to a great development of the city. . . . Rents would be decreased by both the lower price of land and the lower taxes on buildings. . . . A premium would be placed on capital in buildings and a penalty for putting it in vacant land. . . . Therefore, capital, as rapidly as possible, would shift from land to buildings, and buildings would be erected to pay the increased taxes on land. . . . All this would stimulate building.

In its bulletin, the League asks the question, "Can land be secured for use at a price upon which a reasonable profit can be made out of its immediate use?" and then answers with an offer

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of the remedy, "We recommend twice as heavy a tax on land values as on building values as the remedy."

These well-meaning promoters were evidently not aware of the well-established economic fact that to cheapen land discourages the desire to own land. The reason moving one man to sell operates on the other mind in the same way, and dissipates the desire to buy. This is usually expressed in market language in the phrase that it is more difficult to sell on a falling market than on a rising one. By their method of forcing land into use, they lessen the demand for the property and thus defeat their object.

#### COMMUNITY WEALTH DETERMINES BUILDING CONSTRUCTION

Building operations are encouraged and promoted by entirely different forces. To induce large building enterprises there must be a reasonable prospect of marketing the product; the law of supply and demand is always a factor; the facility of financing is an important element; funds must be readily available; the ability and capacity of the builder and investor has to meet the rigid test applied by the financing agent; and last, but not least, the earning capacity of the

community, or the increase of community wealth, is the most effective force in producing large building volumes.

We have had an excellent example of the action of this force in the period following the World War. The accumulation of community wealth, the increased earning capacity of the people, was the greatest factor in causing an unprecedented building construction in America. Favorable conditions prevailed everywhere, and especially in our large centers of population. It was true in Pittsburgh, where building construction reached an enormous volume, although not greater than that which prevailed in all large cities. To show that all cities of the size and importance of Pittsburgh shared in this evidence of prosperity we have only to look at the figures reported by the United States Bureau of Labor and the United States Department of Commerce. Culling from the statistical abstract of the former and the published reports of the latter, I have arranged these data for comparison in two periods of five years each, namely, from 1911 to 1915, and from 1924 to 1928. These periods escape, to a large extent, the immediate effect of abnormal post-war conditions.

City	Average Annual Construction		Average Increase per Year for Last Period	Per Cent Average Increase
	1911 to 1915	1924 to 1928		
Pittsburgh	\$14,277,189	\$40,540,373	\$26,263,184	184
Boston	24,242,806	58,384,246	34,141,440	141
Buffalo	11,832,600	28,012,887	16,180,287	137
Cincinnati	10,097,138	30,165,605	20,068,467	198
Cleveland	23,473,895	58,802,415	35,328,520	150
Detroit	27,095,690	159,843,586	132,747,896	490
Indianapolis	8,375,776	22,685,940	14,310,164	171
Los Angeles	23,052,937	130,101,181	107,048,244	464
Milwaukee	12,530,113	35,177,455	22,647,342	180
Philadelphia	36,250,835	136,469,303	100,218,468	276
St. Louis	15,789,620	44,361,543	28,571,923	181
Washington, D. C.	12,544,558	54,357,691	41,813,133	333



The figures given in all cases include residential, commercial, and industrial buildings. They also include public institutions, public works and utilities, social, recreational, educational, religious, and memorial structures. Only the first three classes pay municipal taxes, and where any city has had a large program of public building such a factor would unbalance its proportion of building construction to meet the local demand for housing, commerce, and industry. The proportion of these to the whole in 1925, 1926, and 1927 in the entire country was approximately from fifty to fifty-five per cent.

In the Pittsburgh district, in 1926 and 1927, they were reported to be fifty-six per cent and sixty per cent, respectively, showing a slightly higher percentage of housing. But this district includes a very large contiguous suburban district, in which housing was reported to be as much as eighty per cent of the entire volume of construction. It, therefore, seems safe to estimate the housing and other taxable construction in the city to be approximately proportionate to that of the entire country, and in this respect to

be fairly comparable with such construction in other cities.

The boroughs and townships surrounding the city of Pittsburgh have had, during the period 1924 to 1928, an unprecedented volume of building construction. In 1924, it was reported as amounting to \$16,112,408; in 1925, to \$15,732,046. In 1927, eleven boroughs and townships, out of a total of one hundred and twenty in Allegheny County, had a building program amounting to \$15,060,810, of which above eighty per cent was for new housing, and in 1928 and 1929 these figures were authentically reported as having been greatly exceeded.

#### FURTHER EVIDENCE

Pertinent to this inquiry is the 1928 report of the Department of Labor, Bulletin 469, summarizing building permits issued during 1927, and the May, 1929, report of the same Department, reporting the building permits issued during 1928, in nearly all the cities of the country.

In 1927, among twelve of the cities comparable with Pittsburgh, we find that nine had a larger ratio of new housing per ten thousand of popula-

1927 REPORT FOR TWELVE CITIES

City	Population	Number of Families Provided for	Ratio per 10,000 of Population	Per Capita Construction Cost
Pittsburgh.....	665,500	2,588	38.9	\$55.76
Baltimore.....	819,000	3,546	43.3	34.72
Cleveland.....	972,500	3,631	37.3	46.77
Detroit.....	1,334,500	15,614	117.0	109.07
Buffalo.....	550,000	3,373	61.3	60.13
Cincinnati.....	412,000	3,212	77.9	74.16
Boston.....	793,000	5,316	67.0	76.90
Chicago.....	3,102,800	41,201	132.8	117.66
Milwaukee.....	536,400	4,252	79.3	70.37
Philadelphia.....	2,035,900	12,197	59.9	57.76
St. Louis.....	839,200	5,463	65.1	49.35
Washington, D. C.....	540,000	3,938	72.9	72.77



## 1928 REPORT FOR TWENTY CITIES

City	Population	Number of Families Provided for	Ratio per 10,000 of Population	Per Capita Construction Cost	Rank of City	Per Capita Construction Cost for Housekeeping Purposes Only
Baltimore.....	830,000	2,884	34.7	\$40.88	160	\$15.25
Boston.....	799,000	6,805	85.1	69.69	67	33.62
Buffalo.....	555,000	3,181	57.2	43.90	149	19.34
Chicago.....	3,157,400	34,447	109.1	102.46	32	55.35
Cincinnati.....	413,700	3,559	86.0	85.71	46	52.28
Cleveland.....	1,010,300	3,167	31.3	55.59	107	16.08
Detroit.....	1,378,900	15,929	115.5	93.74	42	48.13
Indianapolis.....	382,000	2,511	65.7	57.49	98	26.76
New York.....	6,017,500	109,523	182.0	152.33	15	87.49
Newark, N. J.....	473,000	3,288	69.4	72.39	61	35.17
Milwaukee.....	544,000	4,965	91.2	65.06	81	35.21
Minneapolis.....	455,000	2,240	49.1	51.01	127	18.38
Philadelphia.....	2,064,000	10,576	51.2	54.37	113	24.92
Pittsburgh.....	673,800	2,544	37.8	58.44	96	19.70
Scranton.....	144,700	292	20.2	32.01	206	11.28
St. Louis.....	848,100	7,190	84.8	50.50	131	22.67
Seattle.....	383,200	4,658	121.6	90.83	44	41.32
San Francisco.....	585,000	6,084	103.9	64.08	85	34.08
Washington, D. C.....	552,000	4,305	78.0	97.78	37	53.63
Yonkers, N. Y.....	121,300	4,216	347.6	293.64	2	243.64

tion, and the per capita cost of new construction was higher in eight cities out of twelve. Pittsburgh also furnished new housing for a lesser number of families than any of the other cities.

My 1928 tabulation includes Scranton, where the graded tax law applies. Yonkers, New York, is included, because during 1928 it stood second in per capita cost of building construction in the entire country.

The report shows that among the twenty cities in the tabulation, Pittsburgh, in the ratio of new housing per ten thousand of population, exceeded only Cleveland, Baltimore, and Scranton. In per capita construction costs it ranked twelfth among the twenty cities selected, and in construction for housekeeping only it ranked fifteen.

To me, these figures present cumulative and corroborative evidence that the very large volume of building construction in the city of Pittsburgh

during the post-war period cannot be attributed to the graded tax law and that the city had no advantage over other cities. The record produced is evidence that the city has participated in the unprecedented prosperity of the entire country. This is particularly demonstrated by the exceedingly large volume of dwelling house construction in the suburban districts of Pittsburgh, in which the graded tax law does not apply, that buildings when needed by the community and warranted by its buying power will be produced, even in competition with a larger community offering favorable tax discrimination as an inducement to the builder and the home owner.

## WILL LAW ENCOURAGE CONGESTION?

At this point I feel constrained to refer to the possible effect of the graded tax law upon the volume of office building and apartment house construction.

Professor E. R. A. Seligman, of Columbia University, a competent and well-known tax authority, in an article contributed to the Proceedings of the National Housing Conference, 1915, expressed a warning against an undue and optimistic view of the problem of untaxing buildings. The learned author seems to fear "that the untaxing of buildings will increase the congestion per acre . . . increase the tendency to erect lofty tenement houses and decrease the tendency to have little gardens about the houses in the suburbs."

Undoubtedly this theory is founded on well-established economic principles. It cannot, however, as yet be proved by Pittsburgh's experience. True it is that in the city, in recent years, there have been many apartment buildings erected, multiple dwellings of large dimensions and many stories in height in the better residential districts. Quite a large number of apartment buildings of three and four stories, which buildings do not have elevator service, have also been added to the city's housing facilities. This class of buildings has, however, also been erected in a number of the suburbs; and other cities, comparable to Pittsburgh, seem to have just as large a proportion of them.

Emanating from the Pittsburgh Housing Association, there has recently been offered the proposal to amend the graded tax law so that open spaces about dwelling houses shall be taxed as if they were part of the building. This law is aimed at density of land use, and is an indication that in the minds of some there is a fear that the graded tax law may encourage the congestion per acre, against which Professor Seligman issued his warning.

#### EFFECT ON RENTALS

The housing and rental conditions in Pittsburgh are important as a part

of this study, particularly so since the graded tax law was to operate beneficially and its certain effect was to provide an abundance of dwellings and thus reduce rentals. Lower rentals have not been in evidence. This, of course, has been true in all large cities; but it has been shown by careful investigation that rents in Pittsburgh in recent years have been higher than in any other city.

There has been no factor contributing so much to the large building construction in the city as has the great increase in rentals. These rents have advanced more rapidly and to a greater extent than justified by the rise in building costs. In the last two years the reports have indicated a comparatively moderate reduction in rents, followed by a reduction in the volume of housing construction.

Louis K. Manley, Dean of the School of Business Administration of the University of Pittsburgh, several years ago made an extensive study of the rents and housing conditions in the city. In an address before the Pennsylvania Real Estate Association, he reviewed this subject very ably and thoroughly. Quoting from this address, I submit the following excerpts:

In 1913 there were only two apartments or houses of this class (four, five, and six rooms) offered for rent above \$70 per month, and these two rented for less than \$80. . . . In 1913 there were more than 2,500 apartments and houses (four, five, and six rooms) advertised for a monthly rental of \$30 or less.

But the Dean says further:

In 1925 there were 1,682 houses offered at above \$80, as against none in 1913, and 2,650 above \$70, as against two in 1913; whereas 2,547 apartments and houses of this size were offered for rent in 1913 at \$30 or below, in 1925 only 130 were so offered.

I am also constrained to quote from

a study of *Housing Rents in Pittsburgh*, made under the direction of Dr. Joseph M. Gillman and published by the University of Pittsburgh. The pamphlet was published in 1926, and was later incorporated in his subsequent study, *Rent Levels and Their Causes*.

In 1918 and 1919 the average rent per year per room in houses and flats and apartments was as follows, viz.:

City	Rents in Dollars	Wages per Hour (in cents)
Pittsburgh.....	\$51.33	75.5
Detroit.....	48.35	80.3
St. Louis.....	47.16	80.2
New York.....	45.83	70.6
San Francisco.....	45.60	90.6
Cleveland.....	42.88	77.5
Cincinnati.....	42.84	67.7
Chicago.....	39.33	76.5
Newark, N. J.....	39.05	72.3
Buffalo.....	37.51	68.1
Boston.....	37.10	69.1
Los Angeles.....	34.62	67.6
Philadelphia and Camden	32.93	67.7
Milwaukee.....	32.39	69.8
Baltimore.....	29.54	79.7

In another table of average monthly rents in Pittsburgh in specified months, he shows an annual average for the years 1913 to 1925, as follows:

Year	Actual Rent in Dollars	Index Number
1913.....	25.43	100.0
1914.....	26.65	104.8
1915.....	28.89	113.6
1916.....	29.65	116.6
1917.....	36.13	142.1
1918.....	39.04	153.5
1919.....	40.85	160.6
1920.....	60.94	239.6
1921.....	87.40	343.7
1922.....	75.15	295.5
1923.....	86.56	340.4
1924.....	78.52	308.8
1925.....	70.92	278.9

On page 73, he says: "Rents were still high in Pittsburgh in the Spring of 1926. They were 168.9 per cent above Spring rents in the year 1913."

The above study has not been extended beyond 1926. Reports, however, on rental and housing conditions periodically since then indicate that reductions have been made. On the usual four, five, and six-room apartments and dwellings, renting from fifty dollars to one hundred dollars per month, the reduction per month from year to year has averaged \$2.50. On the higher priced ones these reductions have been greater, but on the cheaper houses and tenements they have been less, so that the total reduction for the four years has not averaged more than ten dollars per month, bringing the average rents as reported by Dr. Gillman's study down to sixty dollars per month and the index numbers to 232, as against an index number for building costs for 1929 of 200.

#### INCREASE IN INDUSTRIAL LAND

My study also included that of the increasing land values, and particularly the increase in industrial land, as shown by the records of the assessor's office in Pittsburgh. Ninth Ward industrial land, assessed in 1913 at \$35,000 per acre, rose to \$40,000, \$45,000, and \$50,000 per acre in 1928. The Tenth Ward increases were from \$7,000 per acre, in 1913, to \$15,000 per acre in 1928; there were also rises from \$8,000 to \$20,000, and from \$20,000 to \$40,000. In the Fifteenth Ward the increases were from \$16,000 and \$20,000 per acre to \$30,000 and \$35,000. In the Seventeenth Ward, \$40,000 values were raised to \$60,000; in the Twenty-first Ward, \$22,000 to \$37,500; and in the Twenty-seventh Ward, from \$18,000 to \$30,000, in 1928. In 1914, land valuations in the first twenty-seven wards of the city aggregated

\$481,741,700. In 1929, the same wards showed a land value of \$565,885,020, an increase of \$84,143,320. Land values in eight residential wards of the city advanced as follows:

Ward	1924	1929
Seventh.....	\$19,188,950	\$20,935,590
Eighth.....	17,222,390	20,583,330
Eleventh.....	25,370,190	26,566,240
Twelfth.....	12,233,810	12,287,600
Thirteenth.....	8,551,630	9,646,350
Fourteenth.....	33,503,590	39,219,250
Fifteenth.....	11,758,590	12,535,320
Nineteenth.....	14,294,650	15,864,730

An interesting phase of the subject is presented by an analysis of properties in the Thirteenth Ward. I have chosen this particular ward for the reason that it is frequently referred to by advocates of the graded tax law as having enjoyed great benefits.

This ward has 4,442 taxable owners. It had in 1929 a total land value of \$9,646,350, or an average assessment per owner of \$2,171 for land; its building value in 1929 was \$17,880,750, or an average building assessment per owner of \$4,025. Three large corporations have extensive holdings, so that the average private owner's property is of less value than above indicated. Of the 4,442 taxable owners, approximately 3,500 have the advantage of a lower tax rate than their neighbors; of the others, about three hundred have properties where the land has a greater value than the buildings, and these are by no means the better class of properties. The following table contains fair samples of the proportion between land value and dwelling value.

Of the vacant land owners, I found fewer than ten assessed with blocks of lots, and these ranged from ten to sixty lots. They were being held for prospective purchasers of single lots, as the market offered the opportunity.

Land	Dwelling
\$625	\$300
720	492
1,305	500
1,125	600
1,250	700
1,375	800
1,650	1,000
2,500	1,000
4,270	1,000
4,750	2,800

Two tracts were assessed as acreage, one containing a fraction over ten acres, the other a fraction over one acre. Of the 3,500 owners enjoying the lower tax rate, a very large number had investment properties consisting of either rows of houses or apartment buildings. The Thirteenth Ward is probably fairly representative of the more densely occupied wards of the city, and approximately the same proportions should prevail in the others.

#### CONCLUSION

This study has been extended to greater length than was anticipated at the beginning. This was due, in a large measure, to a desire to cover the subject as fully as possible, in order to determine conclusively the merits of Pittsburgh's system of taxation, and to answer the question whether the benefits produced have been sufficient to justify the non-uniformity of the tax law.

The evidence or data presented should satisfy any student of municipal taxation that the discrimination inherent in the system is unjust and unfair; that it reduces the burden of taxes on the property best able to pay and increases the tax upon that which is least able to bear the burden; and that it violates the constitutional principle that all taxes shall be uniform upon the same class of subjects.



# Inadequacy of Actual Selling Price of Real Estate as Evidence of Fair Present Value for Purposes of Taxation

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**I**T is the purport of the laws of practically every state of the Union in which the general property tax still constitutes a basic source of revenue for state and local purposes that property shall, for purposes of taxation, be assessed at its fair present value. Since the general property tax in the United States has resolved itself largely into a tax on real estate values, the following discussion will be limited to a critical analysis of the commonly accepted determinants of such values and to an examination of their validity as adequate evidence of values for purposes of taxation.

Numerous attempts have been made in legislative enactments and court orders to explain how the fair present value of real estate for taxation purposes is to be ascertained, and what evidence is to be employed by assessors in establishing it. In general, the principle that the actual sale price of a parcel of real estate is the soundest evidence of fair present value has found wide acceptance among taxing authorities. It is "recognized by courts as the best evidence of value, and in the final analysis is the basis of all expert opinions in such matters."<sup>1</sup>

Actual sale prices of real estate as the best evidence of fair present values of real estate for tax purposes have found such general acceptance among assessors of real estate in American communities that little serious thought has been given by them to the necessity

of analyzing these sale prices before employing them as evidence. Yet, it is common knowledge among those conversant with real estate values that the actual selling price of a parcel of real estate, particularly in an active real estate market, frequently bears only a remote relationship to what is commonly regarded as its fair present value.

The wide acceptance of the selling price theory as evidence of fair value for taxation purposes is apparently based on certain specific assumptions, namely: (1) that the selling price has been established in a free market, in which independence of action and freedom of choice exists among buyers and among sellers; (2) that the actual considerations involved in the transactions thus consummated have been made known to the assessor; and (3) that the actual selling price involved in each real estate transaction bears an approximately uniform relationship to the present income-yielding capacity of the parcel transferred, and thus measures the taxpaying ability derived from the ownership of this real estate.

Let us examine the validity of each of these assumptions.

## SELLING PRICE THEORY EXAMINED

The first assumption, that real estate is sold in a free, competitive market, by a willing seller—willing but not compelled to sell to a willing buyer, willing but not compelled to buy—is often contrary to fact. Just what constitutes a free, competitive market?

<sup>1</sup> Bul. No. 15, R.I. Tax Officials' Assn., Feb. 1, 1923, p. 15.



Professor Edie has very lucidly set forth the characteristics of a competitive market:

A competitive market assumes a body of buyers and a body of sellers coming together, each endeavoring to buy or sell on the best possible terms, independent of conspiracy or collusion, and amply informed as to conditions of supply, demand, and prices bid and asked by all other competitors. Three indispensable characteristics of a free market stand out. First, there must be accessibility to the market. This means not merely physical access to the place, but legal access to the rights of offering or asking prices at the place. Accessibility implies legal rights as well as physical visitation. Second, there must be independent action, freedom of choice. Buyers and sellers must have no common understandings, agreements, or powers which put fear or favor into their dealings. Third, all parties must have adequate knowledge of trade facts. Such knowledge must include information on what other buyers are paying in that market.<sup>2</sup>

It is particularly the latter two characteristics of a competitive market, as described above, which are frequently lacking in real estate transactions. In any growing city, a large percentage of all real estate transfers may be said to fall into two distinct classes, the one consisting of purchases of specific tracts for specific purposes, the other of purchases in anticipation of speculative increases of site values. In the former case, there is no competition among buyers, and frequently not among sellers. Consequently, freedom of choice becomes almost meaningless. It is common knowledge that in urban areas certain manufacturers, commercial enterprisers, and other residents, may require sites adjacent to their present holdings, either for the development of their industrial or mercantile properties, or for the better enjoyment

of their residential locations. Even though a parcel of land of exactly the same size as that needed, possessing the same topographical peculiarities and subsoil structure, were available in another location, it would not materially affect the choice of the required site. The two areas are alike in every respect except one, location. But this is the all-essential dissimilarity, which frequently limits the possibility of competition between various parcels of real estate. The owners of the desirable adjacent tracts, or their representatives, are usually in possession of knowledge that their land may be required by their neighbors. If they are secure in the possession of their property, they can exact a price in excess of what would commonly be regarded as fair present value. There is in all such transactions an element of "hold-up" value.

#### SALES OF BUILDING SITES NON-COMPETITIVE

When a business organization is required to expand its plant, it may be compelled to purchase plots of ground adjacent to its present holdings. A proposed building on the business property could be erected in any other part of the city at approximately the same cost. The sellers of building materials and of labor services, which enter into the construction of the building, are competing among each other for the job, and the prices paid for such materials and services will normally be established on a competitive cost basis. However, this is not true in the case of building sites. The owners of other sites cannot compete in the sale of their properties with the owner of the site adjacent to the business requiring expansion. This owner is in somewhat of a monopoly position, and can "hold out" for his price, which must be paid by the business desiring to expand at

<sup>2</sup> Lionel D. Edie, *Economics: Principles and Problems*, pp. 179-80.

its present location. To move to another locality might entail serious loss to capital investment, and would commonly be regarded as economically wasteful. The price of real estate sold under such conditions will tend to vary considerably from the fair competitive price which would prevail if parcels of real estate were interchangeable and standardized marketable products, as are building materials, industrial equipment, and, in fact, the large bulk of commodities which are bought and sold every day.

It may be true that there is competition among the uses to which land may be put, and that in the long run selling prices will tend to reflect prices representing the best economic usage of each parcel of real estate, meaning by "best" that use which will yield the greatest net income. But, in many American cities today land is being withheld from its "best" present use in anticipation of a still better use in the future.

This leads to a consideration of the second class of transactions referred to above, those in anticipation of speculative increases in site values. Such transactions differ essentially from speculative transactions in corporate securities, since real estate does not lend itself to "short" selling, as do stocks. It is impossible to sell a tract of real estate which one does not yet possess, with a view to borrowing another identical tract, or title to an identical tract, to make delivery when required. As a rule, there are no interchangeable real estate "units." Each tract is individual and is not interchangeable with others.

Rumors of either public or private improvements within an urban area, such as the construction of a railroad terminal, a bridge, or a subway, will cause real estate selling prices to advance sharply in the vicinity, long be-

fore the proposed improvements have been completed or even begun. Competitive buyers are largely guided in their judgment as to the prices they are willing to pay by their guesses at potential future incomes, and the fortunate sellers of the properties in the vicinity reap the speculative profits. The selling prices, under such circumstances, will tend to rise considerably above what is commonly regarded to be the fair present value of the properties. The purchaser, who has paid a price for a speculative risk, is subsequently taxed on this purchase price, while the seller, who has "unloaded" profitably, can evade property taxes on the funds he has realized in the transaction.

Assessments of real estate for taxation purposes, moreover, are frequently made only at three, four, or possibly five-year intervals. If the assessment period falls in a year of speculative activity in the real estate market, the speculative sale prices may continue as the assessment basis for years after the speculative period. In the dull market following a wave of speculation, it is practically impossible to sell "at any price." The large number of "forced sales" will tend to depress the market still further, so that the sale prices established under such conditions will frequently bear only a very remote resemblance to the legal "willing buyer, willing seller" fiction. Many mid-western farmers are today said to be continuing the payment of taxes on assessments based on sale prices established during the speculative "boom" period a decade ago.

We are thus led to conclude that all those real estate sale prices which contain in them an element of compulsion, rather than freedom of choice, and those which reflect speculative transactions, are inadequate as sound evi-

dence of fair present values for purposes of taxation.

#### DATA DIFFICULT TO OBTAIN

We may next consider the second assumption, that the actual consideration involved in each real estate transaction is made known to the assessor. Anyone who has attempted to compile data of actual selling prices of urban real estate will be familiar with the difficulties involved in obtaining the desired information. A recent thorough investigation of all recorded deeds in a Rhode Island town over a year's period, when all classes of real property were transferred, showed that the largest amount mentioned as legal consideration in any of these deeds was one hundred dollars. In only a relatively small number of cases do the published newspaper records of real estate transfers state the actual sale prices involved. The familiar "one dollar in lawful money" cannot give an assessor much valid information as to selling prices of real estate.

Prior to the repeal of the Federal Revenue Act provision, requiring stamps to be affixed to deeds in accordance with actual cash considerations involved in a real estate transfer, assessors were able to obtain some slight indication as to actual selling prices of real estate. But, even this evidence could not be accepted as final, for not infrequently stamps were affixed to deeds by speculators in real estate, to convey to prospective purchasers an impression of enhanced value. The unreliability of the Federal Revenue stamps as evidence of actual sale prices was set forth in an investigation made in 1923 by the State Board of Equalization of California. The board's report concluded that Federal Revenue stamps, as a source of information as to real estate values, were of little significance, since it was

early apparent that such stamps were not a reliable index of the consideration realized in a sale.<sup>3</sup>

The third assumption, however, that the actual selling price involved in each real estate transaction bears a fairly uniform relationship to the present income-yielding capacity of the property, and thus measures the current taxpaying ability derived from its ownership, is most questionable.<sup>4</sup>

This assumption would perhaps be sound if every selling price of real estate reflected a reasonable estimate of present realizable income, capitalized at approximately the same rate of interest. In other words, if the selling prices of real estate, employed by assessors as evidence of fair present value for purposes of taxation, corresponded in general to a capitalization of net realizable returns at a rate of three per cent, or any other uniform rate, such selling prices could be employed equitably in assessing other properties having similar characteristics. But, if in one instance a selling price realized in a transaction represents net income capitalized at six per cent, another at three per cent, and a third represents no present realizable returns at all, it becomes obvious that such selling prices neither have a uniform relationship to present taxpaying ability, derived from present realizable income on the investment, nor furnish an adequate basis for judging the fair present value of other parcels of real estate for taxation purposes.

#### EARNING POWER VERSUS SELLING PRICE

It appears to be the theory of ad valorem taxes in the United States

<sup>3</sup> Zangerle, *Principles of Real Estate Appraising*, p. 73.

<sup>4</sup> The term "income" in this connection is employed to designate realizable money income from the use of a parcel of real estate.

today that such taxes shall be a measure of the taxpaying ability which an individual derives from his ownership of the property taxed. Ownership of property is an indication of economic power. This economic power is indicated objectively in the income-yielding capacity of the property owned, and not necessarily in the purchase price which an individual had to pay to obtain possession of the property. As pointed out above, the seller may derive a present income from the funds realized on the sale, but these are not the values that are taxed when real estate is assessed for tax purposes on the basis of its sale price. The purchaser, who may have been compelled to pay a "hold-up" price, and thus assumes all the risks incidental to realizing a reasonable return on his capital outlay in the future, finds that he is taxed on the basis of the purchase price.

In view of this fact, it would seem reasonable to stress the earning power rather than the sale price of a parcel of real estate for assessment purposes. It has frequently been observed that there are wide discrepancies between selling prices of real estate and the present rates of net return on the investments, not only at any one time, but also over a period of time. This is equally true of rural and of urban real estate.<sup>6</sup> The discrepancies may be attributable, in part, to changing taxes and varying depreciation costs, but far more important is the factor of anticipated future income affecting sale prices. In any active real estate market, the annual depreciation in the value of improvements over a period of years is often more than offset by the appreciation in the value of the land. If the two amounts were the same, and

the initial value of a parcel of real estate were equally divided between the land and the improvements, the selling price during the lifetime of the improvement would tend to vary primarily with changes in the purchasing power of the dollar and with changes in prevailing interest rates on long-time investments. Selling prices established in a competitive real estate market would, in other words, tend to bear a fairly uniform relationship to recurring net returns, capitalized at the prevailing rate of interest. But when the belief prevails that the future income to be derived from the ownership of a parcel of real estate will be greater than the present returns on investment, prospective buyers will be willing to pay a price for this potentially greater income, and prospective sellers will demand a present payment for what they consider the larger future incomes capitalized into present values.

The selling prices of real estate in all such cases reflect two primary value influences, one, the regularly recurring present income, and the other, the anticipated increment in income. The relative importance of these two value influences tends to vary with the location of the parcel of real estate, its present and potential uses, the anticipation of improvements to the area, the growth in population and prosperity of the community, the condition of the real estate market, and many similar factors. But both influences are present to a greater or less degree where there is definite knowledge of a limited economic supply in any given area under conditions of increasing demand. In consequence, it frequently happens that the same selling prices of two parcels of real estate will represent present realizable income, capitalized in one instance at five per cent, or more, and in another at two per cent, or less.

<sup>6</sup> Clyde R. Chambers, "Relation of Land Income to Land Value," Bul. No. 1224, U. S. Dept. Agr., pp. 28ff.



As the ratio of anticipated larger returns to the present regularly recurring income increases, its influence on the selling price will be correspondingly greater. Not infrequently, real estate transactions are consummated at fancy prices, where there is practically no present earning power. In such cases buyers pay prices for real estate, reflecting solely the anticipated future growing income, discounted into present market values, which under present day conditions are employed by assessors as a basis for assessment.

#### TAXING REAL ESTATE VALUES

Let us next consider the effects of taxing real estate values, based on sale prices which do not clearly differentiate between the two basic value influences noted above. A tax levied on a valuation based on the present realizable income influence will normally be paid out of the income derived from the parcel of real estate, unless, indeed, the amount of the tax should exceed this income. If the owner of the parcel of real estate is realizing the full present net income, the tax levied on this income value can be shifted only very indirectly through its effect upon subsequent improvements on the property. It will normally fall on the net income. But, a tax imposed upon valuations based on the second value influence, as reflected in actual selling prices, may have to be paid out of other income, if present realizable income is insufficient to pay the tax, and does not necessarily rest where it is imposed.

In the final analysis, all taxes are paid out of current income, and authorities on taxation are generally agreed that taxes which cannot be easily shifted are less liable to cause injustice than those which can be, and are, shifted in whole or in part. Since actual selling prices of real estate frequently contain the second value

influence—anticipated increased income—to a greater or less degree, a tax imposed on valuations derived from this factor does not necessarily fall where it is imposed, and consequently its effects may produce decided injustice to the taxpayer.

It has been argued that in taxing real estate values it is not the purpose to tax only present realizable rental values, for if only these values were taxed much valuable real estate which does not have any present income-yielding power would escape the real estate tax entirely. Speculative values based on increasing income in the future would not be taxed at present, and this would encourage further speculative activity in real estate.

Those who hold this view do not appear to differentiate between the fiscal and the regulatory purposes of taxation. Taxes imposed on real estate values based primarily on present realizable net income would serve as sound fiscal measures. They could be apportioned among different parcels of real estate in accordance with taxpaying ability derived from the ownership of the real estate. Furthermore, they would tend to become increasingly equitable by levying more and more on the rental values of land and by gradually untaxing building values.

On the other hand, taxes imposed for regulatory purposes are not based on the "faculty" theory. When they accomplish their purpose fully, they ordinarily yield very little revenue. But the speculative values on which such regulatory taxes are imposed are neither a measure of present taxpaying ability, nor can they be employed equitably to evaluate other properties for fiscal or revenue purposes of taxation.

If, therefore, actual selling prices are to continue to be employed by assessors as the basis for determining fair



value of real estate for tax purposes, each selling price should be carefully analyzed with a view to determining how much of the sale value is derived from present realizable net income, capitalized at a uniform rate of interest, and how much represents anticipated future income, discounted into the present market value. Only by requiring such careful analysis of each selling price of real estate on the part of assessors can we hope to segregate the value influences which make up the selling price, and thus arrive at a more equitable basis of assessment of real estate for fiscal purposes.

If subsequently the speculative values contained in selling prices are to be taxed separately, it should be clearly understood by the taxpayers that such taxes are intended primarily to regulate speculation in real estate and not to serve as fiscal measures. Nor should the speculative value influence in actual selling prices be employed to evaluate other properties for fiscal purposes. To do so is to impose regulatory penalties on owners of real estate who are not in the speculative market with their property.

#### RENTALS AS BASIS OF ASSESSMENT

In recent years, increasing attention has been given by some taxing authorities to the rental or income value of real estate as the basis of assessment. Thus, the special tax committee of Iowa and the committee on tax investigation of Oregon in 1923 urged the consideration of earning power of property as the basis for valuing real property for purposes of taxation, and the Wisconsin tax commission last year also abandoned the selling price theory. There appears to be a slowly growing recognition of the fact that present earning power of real property is a sounder basis of assessment than is the actual selling price.

The assumption that selling prices of real estate are derived from earning power capitalized at the prevailing rate of interest on investments has led to much of the unsoundness inherent in the selling price concept. Economic theory has in part helped to perpetuate the inequity by maintaining that the market or sale value of any capital asset represents, and is determined by, capitalized anticipated net income at the prevailing interest rate. This process assumes a regularly recurring income from one period to another. But, where there is a speculative growth in income reflected in selling price, this value influence does not represent a regularly recurring income, capitalized at a given rate of interest. It should, therefore, be segregated from the sale price, to arrive at that fair selling price which may serve as a sound basis of taxation for fiscal purposes.

To sum up, actual selling prices of real estate are not necessarily sound evidence of fair present values for purposes of taxation, for they frequently are the resultant of two distinct value influences. Assessors should be required by law to analyze carefully the separate value influences affecting every sale price made known to them, with a view to arriving at valuations, which will bear an approximately uniform relationship throughout the taxing district to the present realizable net income from each parcel of real estate, and thus establish a more sound and equitable basis of property valuation for purposes of taxation.

With approximately forty per cent of the farms in the United States occupied by tenants, and with perhaps an even greater proportion of leased properties in many of our American cities, a body of evidence as to fair present value based on present earning power could be made available to assessors far in excess of the sporadic sale prices

which are now used as primary evidence. In the city of Philadelphia alone, there are upward of two hundred thousand individual homes occupied by tenants.<sup>6</sup> Leases are usually for a one-year period, and rentals tend to reflect competitive market conditions. Furthermore, in the central areas of many American cities, unimproved land has

<sup>6</sup>For a more detailed discussion of tenancy in the United States, see the article by George S. Wehrwein and Coleman Woodbury in this volume.

in recent years yielded a lucrative present income to its users for automobile parking purposes. A thorough investigation into the present net earnings of such lands would serve as further valuable evidence in determining present earning power as a basis for assessment. In general, it would seem that evidence of earnings of real estate could be obtained by assessors, which would be far more representative and reliable as an indicator of fair present value for purposes of taxation than are actual selling prices.

# Taxing Land Values and Taxing Building Values

By RICHARD T. ELY

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THE very title suggests to the writer of this article that in economics certain traditions have come down to us without any critical examination. Sometimes these traditions may amount to an obsession. The late Allyn A. Young, not long before his death, speaking about the Ricardian theory of rent, remarked how long it has taken economists to overcome this obsession. It is no credit to the economists that so many things have passed from one generation of writers to another without critical examination. Now is a good time to smash some of these traditions.

There are those who still think that it is possible to lay down one general rule for taxing land values and another rule for taxing building values. They believe it possible to establish a formula which will be generally applicable. Those who hold to views of this kind have failed to grasp the ideas of relativity and of evolution which were brought forward by the historical school of Germany more than two generations ago. Even in reputable writers, we find such expressions as: "Tax land to bring it into use." It is also often said: "It is well to lessen the tax on buildings so as to encourage building." Examine these two statements somewhat critically. There are all kinds of land. What will apply to one kind of land will most certainly not apply to another kind of land; also, what will apply at one time and place will not apply at another time and place.

## EFFECT OF TAXATION ON FORESTS

Let us suppose we are talking about forests in the United States in the year 1930. Do we want to tax the forest land in order to bring it into use? Taxation as it has existed in this country, let us say, in Wisconsin, has led to the destruction of the forests and has increased the supply of land offered on the market for agricultural use. Those who are the best judges in Wisconsin tell us that what is needed is an increase in the area of land devoted to forests rather than the destruction of forests on land that is best adapted to forests, as is the case in a large part of northern Wisconsin. They tell us, moreover, that there is already an excessive supply of land used for agricultural purposes. Among the best authorities on this subject, in the opinion of the present writer, are Professors Benjamin H. Hibbard and George S. Wehrwein, of the University of Wisconsin. They tell us that we cannot have any proper land policy without a classification of the land, and we must certainly classify the land before we frame our tax policies, in order to bring them into harmony with the desired use of the land.

Now let us turn to urban land. Do we always want more construction of buildings and do we need to frame our tax policies to encourage construction? A survey made by the Institute for Research in Land Economics and Public Utilities a few years ago disclosed a number of vacancies in office buildings

which showed a tremendous oversupply, and this oversupply revealed a waste of capital and labor of national significance. Do we want a system of taxation which will encourage unnecessary construction of office buildings?

In many parts of the country the researches made by our Institute show a great oversupply of apartment buildings, and this oversupply is sufficient to be of national significance, in that it involves a loss of labor and capital. Unhappily, the financial loss caused by an oversupply of office buildings or of apartments too often falls upon those ill able to bear the loss—for example, widows, teachers, preachers, physicians—all of whom are regarded by the less scrupulous men in the real estate business as easy marks, or, to use the phrase of the utterly unscrupulous, as "suckers."

#### HEAVY TAXATION RESULTS IN CONGESTION

In a great many cities of this country, as for example, Madison, Wisconsin, we find an unfortunate congestion of population, and for this our present system of taxing urban land values is in great measure responsible. Lots that are of suitable size for private dwellings are further divided, and houses are placed too close to each other. The æsthetic appearance of the locality is very much marred, and the conditions are rendered less favorable to health on account of the diminution of sunlight and the free play of air around the dwellings. If one inquires into the cause of this congestion, one is told again and again that it is the heavy taxation on land values. It does not necessarily follow from this that the tax on the land should be decreased and the tax on buildings increased, although this would suggest itself. What is needed is a more careful and critical examination of the situation

and an appraisal of the various forces at work leading to the unfortunate conditions mentioned.

In great cities like New York we find a utilization of the land which many of our best authorities on urban development regard as too intensive. We have skyscrapers which many authorities regard as unfortunate in their number and in their height. It is admitted that there is a difference of opinion about the skyscrapers of New York and those of Chicago. The dominant opinion in the City Club of New York, whose members have given a great deal of attention to the subject, is that we have a very unfortunate situation. If it is conceded that the use of the land is too intensive, the suggestion is a natural one that the land should be less heavily and the buildings more heavily taxed. One idea is that we should tax the buildings at a progressive rate when they go beyond a certain height.

If we turn to single family dwellings and examine the situation in various cities of the country, especially those up to, let us say, fifty thousand inhabitants, we discover in some places such a large supply of dwellings that the owners receive a small return upon the costs involved in their construction, even if due allowance is made for depreciation. Do we wish a tax policy which in its influences tends to increase this oversupply? Should we make a distinction between buildings occupied by the owners and buildings rented to others? It may be that even if the rental value of a single family dwelling is such as to yield only two per cent of the cost, less depreciation, the ownership of the home is worth while. Home ownership means many things that cannot be expressed in pecuniary returns. No attempt is made now and here to give a solution of this problem; but it is something that

should be borne in mind in any tax policy if it is to be considered with respect to its social and economic consequences.

#### THE RADBURN EXPERIMENT

Is a building site a gift of nature, or is it a product of labor and capital like the building itself? To what extent have economists or others analyzed the cost of building a modern city? Is the current theory based to too great an extent upon traditions that should be smashed? This article, which is simply suggestive, attempting to raise questions but not to answer them, may properly close with an analysis of costs of making land available for use in the building of Radburn, New Jersey. Radburn is in process of construction by the New York City Housing Corporation, which is a limited dividend company. The officers receive no salary and the stockholders realize only six per cent on their investment. It has been publicly pronounced by Mr. Thomas S. Adams, General Director of Plans and Surveys of the Russell Sage Foundation, to be the outstanding success in housing in the United States. In the judgment of the writer, it is the outstanding success not only in this country, but in all countries. It is, moreover, the laboratory of our Institute for Research in Land Economics and Public Utilities.

Radburn is situated less than fifteen miles from the heart of New York City. The cost of the land as purchased by the company is so small that if it had been given to us the monthly charge for the houses sold on the installment plan could not be appreciably lessened. The cost of making land utilizable in a modern city is more and more a public utility cost, if we construe the word "public utility" broadly so as to include approaches to

the land. In Radburn, of which the writer is a director, the one item of putting the wires underground amounted to a good deal more than twice the cost of the land, and was so expensive that the attempt to do so had to be abandoned. We were obliged to rest content with making the overhead wires as little objectionable as possible. The table shows an analysis of costs made by the technical staff of the City Housing Corporation. An analysis like this is required if we are to adopt proper policies with regard to the taxation of land and buildings.

It will be observed that no ripening costs and no carrying charges are included. Probably Radburn will ultimately house at least twenty-five thousand people, and the present writer would not be surprised if the number of residents considerably exceeded twenty-five thousand. It would be difficult to complete the city without waste in less than ten years; this means a very rapid development. If we allowed an average five-year carrying charge, this would add at least two hundred dollars to the original cost of the land. In all probability, if we do the very best we can to expedite construction, the one item of a carrying charge will exceed the original cost of the land to the company.

#### CONCLUSION

Those concerned with the theory or the practice of the taxation of land values have too often ignored the cost of making land utilizable. It has frequently been argued that land is a "gift of nature." Writers who take this position forget how much of man's toil goes into bringing land into use. Recent studies in land economics have shown that land is one form of capital, in the sense that capital is "stored up effort." Making land utilizable involves real costs and heavy expenditures.



## ESTIMATED COST OF IMPROVED RESIDENTIAL LAND IN SUPERBLOCK

## SUBDIVISION—BERGEN COUNTY, NEW JERSEY

## SECOND DEVELOPMENT OF CITY HOUSING CORPORATION

Item	Explanation	Cost Per Square Foot of Salable Lot	Cost Per Salable Lot 4,000 Square Feet
Land Cost of Lot....	Purchase price of unsubdivided gross land area, including title and title survey expenses averaging \$2,500 an acre	\$.06	\$240
Land Cost of Beds of Street and Park Areas.....	Land area devoted to streets and parks, forty per cent of gross land area, leaving sixty per cent as net usable or salable area—consequently add 40-60% or $\frac{2}{3}$ to above amount, making \$4,000 an acre	.04	160
Improvement Cost...	Cost of grading streets, installing storm sewers, sanitary sewers, concrete paving, curbs, sidewalks, street trees, street lights (electric, gas, water being installed gratis)	.20	800
Landscaping Cost....	Includes the extra costs of a garden community: (A) Park development, park walks, lights, grading, top soil, shrubs, benches, play equipment	.06	240
	(B) Private lot development or yard planting work. (This item is usually not included as part of the cost of real estate and is either omitted or considered an extra item in construction cost)	.09	360
Overhead Cost.....	Engineering and architectural fees and expenses for planning of the above and supervising, plus interest and taxes on the land during construction period only	.05	200
	(No carrying charges, i.e., interest and taxes, have been added to the cost of the land for the period from the time of purchase until construction commences. When this is added the cost of the land will be even greater)		
Total Improved Cost.....		\$.50	\$2,000

It is probable that less "unearned increment" accrues to the holders of land than to the owners of any other agent of production. Our taxation policies must look facts in the face. In drawing up schemes for the

taxation of land and buildings, it is necessary to bear in mind the fundamental laws of demand and supply. We now have an oversupply of agricultural land and a surplus of food products. This article has shown that.

in many cities, an oversupply of buildings has been the result of mistaken taxation policies.

One of the factors leading to the confusion which has surrounded the taxation of land values is the old theory of economic rent. Those who hold this theory regard land income as the result of the spontaneous action of nature and land values as the consequence of the niggardliness of nature in failing to provide an adequate supply of land in relation to man's need for it.

Economic evolution has disproved many of the hypotheses on which the Ricardian theory of rent is based. Thus, old traditions, which are closely bound up with obsolescent theories, must be smashed. With the aid of patient studies of facts and data we must formulate new theories and new policies. The concept of economic relativity must lead us to draw up plans for the taxation of land values which will meet the needs of different times and of different places.

# Trends in Urban Real Estate Values, Past and Future

By STANLEY L. McMICHAEL

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**D**URING the past fifteen years, urban real estate values have been the subject of a rapid growth, and, for several years, in some American communities, of a definite recession. The cause was, of course, the World War which raged in Europe for four years, and the resultant currency depreciation. During this time the United States also directed much of its energy toward helping the allies win the contest.

During the decade extending from 1918 to 1928, land values in most American cities practically doubled, as did costs of building construction. This rise corresponded roughly to the increase in the price of commodities. Adequately to comprehend the reasons leading up to increases in land values, it is necessary to go back a few years and to review the conditions which preceded the business and real estate booms which swept over America between the years 1919 and 1926. Between the years 1892 and 1922, the American business barometer was steadily rising. Price levels were continuously going up. This was particularly true of real estate. One could be reasonably certain that one could buy almost any piece of real estate and sell it at a profit within a reasonable time thereafter, no matter what merits, if any, it possessed. Rental returns had been steadily advancing, particularly during the World War period.

## POST-WAR DEVELOPMENT

During the war, American building operations of all kinds were greatly restricted, so that when construction work was permitted to proceed there

was a great rush, the price of labor and materials advanced sharply, and it was found that building costs practically doubled, just as prices of all other commodities had advanced in about the same proportion. The man who thought he had owned a ten thousand dollar piece of property found he could sell it for almost twice that price. Much property changed hands on the new high price standard and much easy money was made. This condition immediately attracted the attention of the speculative public, and a genuine real estate boom got under way throughout the entire country. Income and economic values were totally disregarded. "Buy and sell at a big profit," was the speculator's motto. A mad rush for development in building construction ensued in many cities, business districts expanded beyond their needs, and the ownership of much property in what is known as the "twilight zones" of cities was assumed by unsuspecting purchasers who thought they could shortly resell it at a profit.

Speculators and profiteers from other fields, entirely untrained in real estate promotion, management, and finance, were attracted to this new source of easy money. Building construction proceeded at a feverish pace, millions of dollars were sunk in what later proved to be overpriced properties, reckless and uneconomic financing was engaged in, and bond issues were floated and sold where they sometimes represented the full value, or more, of the security. Subdividing of vacant land proceeded far beyond current needs, and the chief argument for buying a residential lot was the fact that it could be sold at a

fancy profit before the next tax and interest payments became due.

With such unsound basic conditions as these, any trained student of real estate could readily perceive what would happen. Eight months before the Florida land collapse occurred, I predicted that the worst real estate panic in history would take place before Christmas. It came early in December. The trouble begun in Florida soon spread throughout the entire country, and now, after a three-year period of readjustment, we find real estate values deflated from twenty-five to forty per cent, according to the locality and the character of the property.

The most natural thing that could occur did happen. Urban property prices came tumbling down. Bond issues on business properties collapsed and were defaulted; mortgage companies, promoted in many instances for the purpose of obtaining fancy bonuses and of collecting high rates of interest, went into receivership; home owners found their supposedly good equities almost wiped out; and a general demoralization of the real estate market gradually ensued.

This is the period through which we have been passing since 1925. Confidence in real estate as an investment has been severely shaken and the buying market has been dead or dormant. Speculators, where possible, have accepted their losses, or have passed them on to innocent investors who could not escape dire consequences, and have swung over into an orgy of stock market speculation, which has led to further complications of the problems of orderly real estate adjustment.

#### INFLUENCE OF THE AUTOMOBILE

While the boom was in progress, certain economic forces were at work, affecting the use and value, particularly of business property, which, after all,

is the main source of profit in real estate investment. Since 1918 the automobile has been rapidly improved and increasingly used. Millions of new cars have been placed on the market and prices have been lowered, until nearly everyone can own a machine of some kind.

The ability to reach distant sections of a community led to the building of outlying residential areas, followed almost immediately with the creation of new business centers in far-flung sections. These business centers immediately began to deprive the downtown district of a city of a portion of its most choice buying power. Neighborhood stores of all kinds began steadily to rob the downtown stores of much valuable cash trade, land values in outlying business districts were enhanced in many instances, and there followed a speculative orgy in buying outlying business corners and inside frontage, where rapid development was anticipated. This market, too, has become glutted, and much property of this kind will have to await the time when more store units are needed in such areas.

I wonder if students of the problem fully realize what the automobile has done for real estate, in opening up for development new areas which a decade ago were wildernesses beyond city limits, but which today are built up with homes, every one of which affords one car, and many, two or three cars, to each family. The motor bus has taken the place of the street car. Personally, I am inclined to feel that a decade or two hence the surface street car will be a thing of the past, except in certain sections of a few large cities. Traction systems of this character have been going out of business in large numbers all over the country, being replaced by busses.

The automobile has done more to

disrupt, readjust, and stimulate real estate conditions in cities in the past ten or fifteen years than any other element. It has brought on traffic problems which are of concern to real estate men, since the ability of a city to grow depends upon its ability to move people and goods from one place to another. *Today distance is measured in minutes, and not in miles.* By means of horses, the first street cars conveyed passengers for a distance of two, three, or four miles. Later came the trolley car, which doubled the distance. Then came interurban service, and finally the busses, which have driven the interurban lines, one after another, into bankruptcy courts. Transportation is the very life blood of any city, and it is of paramount interest to real estate brokers that it should be of the most comfortable, rapid, and safe character.

Merchandising methods, too, have changed vastly in the past decade since the real estate boom really began. In many places, the independent grocer, butcher, or baker has almost passed from the picture, being supplanted by highly organized chain store systems, which sell on small margins of profit because of low overhead and because of their ability to buy in trainload lots instead of by the dozen or gross. Superficially, one might think that this has not affected real estate, but it has. While the chain store operator may sometimes pay higher rents for choice locations, there are fewer of them, and in some instances they are the closest bargainers for space that may be found. Because of the general scaling down in rents which has occurred, and their ability to pay promptly, chain store operators today will be accepted as tenants at lower rentals by many real estate owners.

The national immigration law has seriously affected many large industrial centers. Take Cleveland, as a typical

example. Before 1924, when the restrictive law went into effect, the city was receiving about forty thousand new immigrants each year. These immigrants had to be clothed, sheltered, and fed. They usually sought housing accommodations in the poorer districts. Owners in these sections rented their properties and moved to slightly better neighborhoods; in turn, the owners in these neighborhoods sold or rented, and moved up the scale. Sometimes as many as seven moves eventually followed the entrance of a single immigrant family. Often five of these moves meant real estate brokerage deals, with resultant commissions. At one fell swoop, most of this activity was cut off, as evidenced by the fact that in Cleveland, in 1929, less than six thousand immigrants were received, while over twenty-five hundred foreigners returned to their native lands. Owners in lower grade homes have been compelled to continue to live in them, and the chain of sales or rentals which used to take place has almost completely ceased, further clogging the real estate market with many low-grade properties, which simply cannot be moved at any price.

The mania for merging industrial corporations has affected real estate to some extent by the abandoning of plants, but this has been offset to some degree by the opening of new branches. It has, nevertheless, had a disturbing effect on the market. It is important to note, however, that industrial real estate seems to have recovered to a greater degree than almost any other branch of the business.

#### RELATION OF BANKS TO REAL ESTATE

The tremendous activity on the part of industrial and commercial concerns, the sale of their securities on the stock market, and indeed, the gambling in stocks themselves, have had a



tendency for several years to cause banks and financial institutions to allow real estate to languish. Real estate has elicited little sympathy from the banks, and the consequence is that it has been impossible in many instances to get any financing of a character which might be termed helpful. Instead, the banks have foreclosed and have themselves gone actively into the real estate business. Perhaps this was unavoidable; but, nevertheless, before real estate can hope to come back, it must secure the helpful coöperation of the banks in the development of new, needful, and properly balanced projects of many kinds. Financing is one of the problems which the real estate man will have to face in the coming years, and he should begin to devote time to the study of those plans which apply particularly to his own business.

Labor unions did their share to precipitate high prices, which could only be followed by a collapse. They are not to be blamed for getting their share, but now that readjustment is under way, on a scale of falling prices, it is not proper for labor to demand the five-day week at the expense of wage increases, as is gradually being done in a number of American cities.

Pictured briefly, these are some of the depressing factors which have been affecting real estate through the period of deflation which has been experienced in every section of the United States. Real estate, like every other commodity, responds to, and is governed by, sound economic law. In physics, what goes up, comes down, and the higher it goes, the more rapidly and the harder it falls. Someone has observed that the harder it comes down, the higher it bounces when it recovers. Let us hope that the rebound of real estate, when it comes, will not be in proportion to its fall, else we will encounter another

boom, and an inevitable collapse later on. Such booms and depressions are unsound and distinctly undesirable. If the development and the sale of real estate can be kept on a more even keel, with speculation eliminated to as great a degree as possible, it will be better for all concerned.

I am not a prophet, nor the son of a prophet, and can only speculate, as the reader may, on what the future holds in store. Nevertheless, there are sound economic laws governing real estate value growth, and by observing and analyzing these and their probable effect on real estate we may be able to determine, to some degree at least, what will happen within the next decade, and particularly within the next two to five years.

Commercial and industrial real estate in most cities, I believe, have reached the lowest levels to which they may be expected to fall. Indeed, industrial real estate seems to be definitely on the rebound. Business property, too, in most cities, gives evidence of more activity. Improved residential property will recover in proportion to the need for more and better homes, particularly those under ten thousand dollars in value where, naturally, the largest demand exists.

What is going to happen, it seems to me, is that real estate during the next few years is going to be sold on its earning capacity to investors or owners who acquire and hold it. While a ready vehicle for speculation, the public probably will be slow in forgetting the losses which have been sustained.

#### LACK OF LIQUIDITY

The great weakness of real estate as an everyday investment is its lack of liquidity. This refers particularly to the development of business properties of greater scope and size. Con-

fidence in first mortgage bond issues will return only when the investor feels that his capital cannot shrink to a point where he will suffer a loss in principal. This requires conservative handling by honest, capable companies. Furthermore, the investor must be able to sell his stock based on realty investments at approximately its market value whenever he desires to do so. If he is able to do this, he will in all probability not desire to do so. I am looking forward with a good deal of interest to the experiment which is being tried in New York, where the Real Estate Board of that city has formed an exchange for the sole purchase and sale of real estate securities. Should the plan prove successful, it will certainly spread to other cities, and a solution may have been found for a serious problem which vitally affects the real estate business.

A radical change which will, in my opinion, occur within the next few years, will be the basis on which the subdivision business will be conducted. This branch of the realty field is indeed in a bad state. To make profits and keep organizations functioning—both of which are very reasonable and natural desires—many subdividers have been for years overselling their markets. In many cities throughout this country, all subdividing activities and sales could be suspended for at least five years with little damage done to anyone except the subdividers themselves.

Realizing this condition, intelligent subdividers are seeking their own salvation by organizing house-building departments, erecting homes in conformity with the locations where their lots are situated, and selling complete homes on the same proportionate basis that they used to sell unimproved lots. The sale on a wholesale basis of unimproved lots, particularly where

pavements, water, gas, and electricity are not available, has definitely come to an end. Only the operator who builds complete homes and sells them on a basis the buyers can afford to handle is going to do business in a big way.

Certainly the bottom of subdivision deflation has not yet been reached. The market in most cities is simply glutted with lots, held in large numbers by owners who bought them in misguided moments on a speculative impulse because glib salesmen said they could double the buyers' money for them within a few weeks or months. The subdivider himself, likewise, is burdened with hundreds of unsold homesites, is property poor, and is burdened with interest and taxes. The sooner the professional subdivider realizes this and revamps his business to include completed homes, the sooner this great branch of real estate will recover and prosper.

If the subdividers of the country realize that the demand is for homes, and not for lots for speculation, there is no reason why that branch of real estate activity should not be speedily brought back to a healthy condition and great benefits bestowed upon thousands who need homes and who could buy them on a reasonably low payment plan.

Another definite change seems to be in the offing. There are too many persons engaged in most lines of business—individuals poorly equipped by training and backing to continue in their various callings. Hence, we have mergers. There are certainly too many persons, woefully trained, if trained at all, in the real estate field. They know little or nothing of the history, economics, and orderly mechanics of the business, and they are "starving to death" by the score every month. Many undesirables are thus

being eliminated by natural circumstances. Real estate licensing laws in nearly thirty states are driving out others. Smaller numbers of skillfully trained men could easily take over and continue the business from now on. Students who definitely know why real estate is a good investment, and who can prove it to the public, are the ones who will succeed.

Downtown and outlying business property, in my opinion, has in most cities definitely reached bottom, and there is, indeed, evidence that it is starting on the up-grade. It may be some time in most cities before much real activity is shown, however; complete restoration may not come for four or five years.

Real estate, as indicated heretofore, enjoyed its share of the prosperity wave which swept over the United States following the World War. While, like all other commodities, it has been subject to deflation, owners, for the most part, refuse to recognize that deflation is here, and that is the direct reason for the present slump in the real estate market. When owners realize that their properties must be appraised largely on an earning basis, active business will resume. The speculators in real estate are absent from the market in most cities, and when they are not active the investors have little incentive to follow, for follow the speculators they always do. There is plenty of money available for the purchase of real estate, but the buyer must be assured of a reasonable return on his investment; and that is what real estate, at its present price, does not offer.

#### ZONING LAWS

There has been a distinct tendency for several years past to exercise social control of land to a greater extent than ever before. This is evidenced largely

in the zoning laws, passed by hundreds of communities, which seek to segregate into logical sections the types of land needed for the varied activities of a city. Zoning laws have a tendency to increase or to lower land values, according to their logical use, but, for the most part, they increase values. Undoubtedly, a limited amount of business property will have a greater total value than if business projects are indiscriminately placed. Likewise, when residential districts are protected by adequate zoning restrictions, and when a buyer knows that he will not be encroached upon by a factory or commercial structure, he will pay more for such land.

Platting commissions have been formed in many cities to control the manner in which subdivisions are laid out and improved. This is a further extension of the tendency for social control, and is desirable from every point of view, despite the fact that it interferes with the so-called liberty of the subdivider in disposing of his land. City planning is likewise directing the growth of cities in a more orderly manner, and will finally result in increased values for all types of land.

Summing up the extent of growth of urban real estate values, one may safely state that there has been no growth evidenced since 1925 or 1926. Indeed, there has been a falling off in so-called values, for real estate has become "frozen," through a lack of realization on the part of owners that the prices they thought they were going to get for their land have not been realized. There has been, instead, a decrease in values, which were forced upon the country through the general inflation and subsequent deflation which followed the World War.

What of the future? The real estate market enters the year 1930 in a depressed condition in most urban cen-

ters. There is keen conflict between buyers and owners. The former insist on buying on a basis of the economic value of land as represented by what it will earn. The owners are still loath to surrender the fancy speculative prices which they had set their minds upon obtaining. There the market stands at the present time. With the collapse of the stock market late in 1929, and the ultimate return to real estate channels of a considerable volume of speculative and investment funds, it seems likely that conditions will steadily improve, particularly if land owners will sell on a basis which will permit a reasonable return to buyers of real estate. Until these conflicting elements settle their differences, and actually engage in trading, the market will continue dull. It seems probable, however, that 1930 will see a resumption of activities on a larger scale than that obtaining for the past several years. Cities are

growing, but more slowly than heretofore. This is due to the restriction of immigration, the tendency of the automobile to contribute to the building up of outlying towns and villages, the check of movement from farms to cities, and the ever increasing costs encountered in supplying public service facilities to cities as they grow to huge proportions, thus creating prohibitive tax and assessment rates.

It seems safe to predict that the market for real estate in the near future will not be as active as that encountered between 1918 and 1925. Nothing but a great national catastrophe like a world war could create such inflation. Lacking this influence, the real estate market will reestablish itself on a more orderly basis, geared for slower speed and the observance of those economic factors which must prevail in as important a field as that of real estate.

## The Going Value of Real Estate

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THE term "going value of real estate" today has almost as many meanings as there are points of view regarding real estate. To a professional expert witness, it may mean any sum which the man who retains him wants it to mean. To the speculative dealer, it means the sum he can afford to pay for a piece of real estate and still be reasonably sure of making a profit on its resale tomorrow, next week, or next year. To some dealers in "guaranteed" first mortgage bonds, it means apparently the cost of the land, plus the cost of erecting a building, plus the cost of commissions to bond salesmen and the profits of the promoters. To certain more conservative dealers in mortgages, it means the present net income capitalized at a suitable rate per cent, this rate varying from four to fifteen, depending on the location of the real estate and the uses to which it is, or can be, put. To certain life insurance companies, it meant for a time, when applied to farms, the average annual gross income for a term of years capitalized in such a manner that the deduction of income sufficient to support and amortize the loan would leave a residue large enough for all operating costs, including a comfortable living for the owner.

Judging by the researches of the Department of Agriculture, going value seems to have meant, consciously or unconsciously to the farmers of the middle west during the decades preceding the World War, the capitalization of current net income at the current interest rate, plus the antic-

ipated annual increases in future incomes discounted at the same rate. To some economists, it means simply the discounted sum of all anticipated future rents. To persons having annual incomes far in excess of their needs, even for an extravagant scale of living, both tangible income from real estate and its market value, present or future, may disappear as factors in the determination of going value; and the satisfaction of a desire for social prestige, for the enjoyment of a particular view, or for an exotic existence amid romantic or unusual surroundings, may become the dominant factor in the evaluation of real estate which makes possible the gratification of those desires.

Divergent as these definitions are, they have certain characteristics in common. All of them have a purpose which they are designed to serve. Intelligently used, they all have a pragmatic value. In other words, they are true because—and when—they work in the situations to which they are applied. Under certain circumstances, furthermore, the purely speculative and meretricious definitions will tend to atrophy; the application of the more basic definitions will tend to produce identical appraisals. In an economic situation, for example, which has been reasonably stable for an extended period, the capitalized sum of present rentals, the discounted sum of all anticipated future rentals, and the current market value will tend to draw so closely together that the speculators and charlatans will have no field in which to operate.



## SHIFTING EMPHASIS ON DOMINANT THEORIES

The colonists who settled along the eastern fringe of the American continent some three centuries ago had grown up in an environment in which income provided the only practicable basis for the appraisal of real estate, whether for sale, mortgage, or taxation. That basis proved inadequate in the new situation. Real estate was rarely rented and its income was difficult to ascertain. It was frequently sold, and its market value was comparatively easy to establish. Little by little, market value replaced capitalized rentals as the basis for appraisals; gradually, under the stimulus of forces generated by a rapidly growing nation, market value forged ahead of capitalized current rentals; slowly, the speculative elements came to dominate, and led large sections of the American people to forget that income is the ultimate basis for a safe market value.

Until two decades ago, it was still possible to find in many parts of the country appraisers for mortgage loans who had never once taken anything but current market value into account in their calculations. And why not? Many of them had never known a situation in which the trend of real estate market values was not sharply and constantly upward. If a temporary depression came, and foreclosures became necessary, it frequently developed that capitalized income had caught up with the market value at the time the loan was made, and sweeping financial disasters were averted. Small wonder, then, that these appraisers and their clients should have lived up to a slogan coined much later: "Don't sell America short."

Meanwhile, however, the values of real estate parcels in the hearts of the

metropolitan centers had become so great as to restrict dealings in them to a small percentage of the population. It was no longer probable that one would find a potential buyer for them among the first ten men one met on the street. In this situation, income again came to the fore as the dominant consideration in appraisal. The idea was then carried out into the still booming rural sections in connection with appraisals for loans made by the larger and more conservative financial institutions, whose primary interest was in security of principal and income. At the same time, faith in the adequacy of the old formula that real estate everywhere and always increases in value, began to show signs of wavering.

Broad patches of land appeared along the eastern slope of the Appalachians which not only ceased to keep pace with the general advance elsewhere, but which even receded markedly both in market value and in annual income. Thriving mining camps in the Rocky and the Sierra Nevada mountains were converted almost over night into what one writer has called "the ghost cities of the West." When finally the recession of values spread like a blight over the heart of the nation's central farming area, carrying down one bank after another which had made "conservative" loans limited to fifty or sixty per cent of market value, the stage was set for a thorough reconsideration of the old theory that exchange value alone is a safe basis for the estimation of going value.

No one can compare the large number of books, pamphlets, and articles on real estate valuation which have made their appearance during the past decade with the slender literature that was available on that subject prior to that time, without being impressed by the great amount of hard thinking which is now going on and by the

dominant place which the income concept plays in that thinking. A perusal of the literature alone, however, is not sufficient to indicate the revolution which has gone on in our thinking during that period. The market value concept had no literature. It never occurred to its practitioners that the theory needed either elucidation or defense. It played its part in the development of a continent. It had a pragmatic value while the trend of the real estate market was generally upward. That day is past. Today, with sharp upward and downward trends existing side by side, financial security demands a consideration of income—not present income alone, but income for an indefinite period in the future.

#### THE IDEAL CONCEPT

The ideal concept of going value is undoubtedly that of the economist: the discounted sum of all anticipated future incomes. Reduced to its barest outlines and stripped of numerous essential qualifications, its implications may be illustrated by the following example. Assume an owner of a parcel of real estate and another owner of fifty-year tax-exempt Government bonds. Assume, further, that they retain an appraiser to determine the number of bonds which can be exchanged for the real estate, subject to the proviso that the appraisal of the real estate is to be made in such a manner that at the end of fifty years the capital in the possession of each party to the exchange will be equal in value, and that each shall have received during the interim precisely the same equated amount of net income. In other words, an appraisal made on this basis would have to be capable of justification retrospectively after the lapse of a given number of years. An appraiser able to estimate accurately

all anticipated future incomes would need powers of second sight, such as those sometimes attributed to the seventh son of a seventh son.

Until our economic situation reaches the point of stagnation, it is hardly probable that we can achieve the economist's ideal in valuation. We shall, no doubt, continue to make present income the basis, and to use a capitalization rate in which we will make such allowances for fluctuations in estimated future income trends as the best information available to us seems to warrant.

In the process of ascertaining present net income, as well as in that of estimating future trends, certain long-run factors must be taken into account. In order to bring these into clear relief, it will be necessary to analyze the outstanding economic characteristics of real estate. Briefly stated, a piece of real estate is simply a parcel of land, with or without attachments. The land itself has certain inherent qualities—fertility, stability, topography, location with reference to other lands, and so forth. The land can acquire a tangible economic value only when it is equipped with certain attachments of the type described below.

On the other hand, examples may be cited of attachments to land which are quite as useless as a powerful horn would be on an automobile without an engine. There is this difference, however, between a superfluous attachment to an impotent automobile and one to an impotent piece of land: the automobile horn can be transferred to another place where it will serve a useful purpose; the superfluous attachment to land, as a rule, cannot be so transferred.

#### FACTORS GOVERNING INCOME FROM LAND

The attachments to land are of two kinds—communal and individual. The

first important attachment to the land along the eastern seaboard of the United States took the form of an irregular and intermittent transportation service across the Atlantic, provided by a few sailing vessels. The next attachment, after the development of crude shelters for the inhabitants, was the extension westward of trails. These early attachments have now been replaced by steamship lines maintaining swift and regular service to all the ports of the world, operating in the great majority of cases under direct or indirect Government subsidies: canals, railways, motor highways, and pipe lines extending inland, built and operated, in the main, by public or quasi-public agencies. They have been supplemented by submarine cables and land wires, radiating in all directions, and by radio transmission stations; by systems of surface, overhead, and underground local transportation systems; by water, sewer, gas, electric, and telephone systems; and by all of the paraphernalia of modern government which contributes to human health, safety, welfare, efficiency, and happiness.

All of these are communal attachments to land, in the absence of which the land itself, regardless of its inherent qualities, can have no going value whatsoever. Their presence alone is not sufficient to create value, as is amply proven in "the ghost cities of the West" already referred to, where values of real estate—lands and buildings together—have sunk to the vanishing point, in spite of the fact that there exist many of these communal attachments to land. The inherent qualities of the land, supplemented by the movement of population to take advantage of those qualities, determine the extent to which those attachments will influence aggregate values; less rigidly, they determine the

lands which will be selected for improvement. In the long run, they establish the manner in which the aggregate values will distribute themselves among the individual parcels in the area affected by the attachments.

While there is no inherent difference in kind between the communal attachments which we are now making to lands and those which were made by our forefathers, the differences in degree are so marked that we are, in effect, confronted by almost unprecedented economic factors. The current tax rolls of New York City indicate variations in bare land value ranging from less than one dollar to considerably more than thirty thousand dollars per front-foot of standard depth.

The emergence from time to time of new land value peaks, and the subsidence of former peaks and extensive plateaus of value, have thrown the art of appraisal into confusion. In and around every city, private investors, building and loan associations, mortgage companies, and city officials have imputed city lot values to land parcels which superficially resemble city lots, but which lack a number of the basic attachments essential to make those lots usable under modern standards of urban living. The division of responsibility for providing the necessary communal attachments, and the piecemeal manner in which they are provided, have contributed to the existing confusion in our thinking.

#### A CONCRETE EXAMPLE—RADBURN

The experience of the City Housing Corporation, a limited dividend company, in connection with the development of its new thirteen hundred acre subdivision at Radburn, New Jersey, throws a good deal of light on this problem. The lands in question lie only about fifteen miles from the heart of New York City. They were there-

fore near, and within the zone of influence of, certain of the major regional attachments essential to land value—local and transcontinental transportation lines, highways, and all of the public utilities needed for urban utilization. The average cost of the land to the company at current market value was approximately six cents per square foot.

The public and private agencies concerned with the provision of gas, electricity, telephone, and water supply undertook to extend their lines to the new subdivision without charge to the company, because the volume of business expected on the subdivision warranted the assumption that the rates payable by future users of those services would support the capital expended for the extensions. The subdivision company itself undertook to provide the land for streets, parkways, and school sites, to install storm and sanitary sewers, and to pave the streets and the sidewalks. When it had finished this process for the first residential unit placed on the market, the total cost to it per square foot of salable land was approximately fifty cents. That fifty-cent average is being used as the basis for market value in the sales that are being made.

If this process of development had been carried out by the piece-meal, long-term method followed in connection with the fringe of vacant land surrounding most cities, this increase in market value from six cents to fifty cents per square foot would have been looked upon quite generally as an unearned increment. So far, however, as the City Housing Corporation and the purchasers of homes in Radburn are concerned, it is evident that this increase was comparable rather to the increment reported by the Federal census of manufactures under the heading "value added by manufacture."

If this conclusion is warranted, it leads logically to two further conclusions which are of primary importance to appraisers in estimating future income trends. First, it is obvious that unearned increments, which play a large part in the calculations of appraisers, occur when the costs of manufacture are not charged immediately to the lands affected, or do not become deferred charges against future incomes therefrom. Second, if the costs of manufacture are charged against income from real estate not affected by the manufacture, that real estate must experience corresponding decrements in going value, because its net income available for capitalization is decreased thereby.

#### THE VALUATION OF BUILDINGS

In addition to the sometimes intangible, frequently remote, and often invisible attachments to land, which have just been discussed, there are, of course, the more obvious attachments in the form of buildings. The cost of these is, as a rule, a direct charge against the parcels of real estate of which they are a part. For this reason, some appraisers cling to the rule-of-thumb principle that an attachment of this type is worth what it costs to build it; others modify the rule by allowing for structural deterioration; while still others contend that it is worth reproduction cost new, less allowances for the structural deterioration manifest in the existing building.

It is obvious, however, that none of these rules can be applied with accuracy to any one of the structurally sound buildings in "the ghost cities of the West"; none is adequate for use in connection with buildings in the comparable dead spots of any of our large cities; none could be applied safely to the new Chrysler building in New York City, if that building had been erected in the



Mojave Desert of California. It is even possible that none of these rules is applicable to that building erected where it is at the intersection of Forty-second Street and Lexington Avenue. Whether the Chrysler building—temporarily, at least, the tallest structure in New York City—will be more successful than its predecessors in that rôle in paying adequate returns on its costs of construction, remains to be seen.

From the instances cited, it is obvious that any one of a number of causes other than physical deterioration may make a building worth less than it cost to build it. Faulty or extravagant design may lead to waste of capital. Subsequent changes in style or in methods of construction may have the same result. Far more important, however, in the long run, are the factors intimately connected with the inherent qualities of the land, or with the communal attachments installed for the purpose of taking advantage of those qualities.

The decline of some of the western mining camps was due to exhaustion of natural resources; the decline of others was due to drops in the price levels of certain commodities, or to increased costs of extraction with increasing depth. The decline of "the dead spots," common even in growing cities, is attributable in some cases to the inadequacy of the communal attachments to land. In other cases, communal attachments, adequate when the buildings served by them were erected, are rendered relatively inadequate because of the construction of newer and better attachments to competing lands elsewhere.

When land values decline, building values decline with them. When they increase markedly, building values, strange to say, may also decline. In connection with dwellings erected for occupancy by groups whose incomes are rigidly limited by general

wage levels, cases have arisen which seem to indicate that increases in the value of the lands on which they are erected, with the attendant increases in annual taxes, may decrease the net income from the properties as a whole to a point where the value of the buildings disappears. In some of those instances, furthermore, the increases in land value are not sufficient to compensate for the building values wiped out. With that fact in mind, it is interesting to note that in Radburn steps have been taken, both in the physical design of the subdivision and in the restrictions placed on land uses, to minimize the danger of undue enhancements in residential land values, the purpose being to conserve the investment in the buildings and in the other attachments for residential use.

#### CONCLUSION

Here, then, is the situation with reference to the determination of the going value of real estate. The great fiduciary institutions—the insurance companies whose reserves belong to a multitude of policyholders, and the banks whose funds in large part are held in trust for depositors—many of the large individual and corporate investors, and a growing number of small investors, have come to place security of principal first among the considerations in investment. They have learned that security of income is a prerequisite to security of principal. There is consequently a growing emphasis in appraisal methods on the determination of actual or potential income.

Gross present income is comparatively easy to determine, but going value depends on future net income. Certain of the necessary adjustments of gross income, in order to arrive at net income, can be estimated with reasonable accuracy. Adjustments of



income, on the other hand, for the amortization of losses due to shifts in the value of the dollar, or of wastes—only too often needless—due to shifts in land utilization, are still in the realm of guess work. At present, no appraiser can hope to answer correctly all the questions which arise in these fields in connection with all the properties he appraises. For the solution of those problems, he must rely on others.

In short, the appraisal of real estate is no longer a job simply for the appraiser. The movement toward the division of labor, which is one of the outstanding characteristics of the age in which we live, has broken up the appraiser's job into a number of inter-related parts. Experts in the theory of money have taken over the task of devising a standard of value which will be stable. The zoners have set out to prevent the needless, sudden, and cataclysmic changes in land utilization which have only too often wiped out investments in land and buildings. The city planners are beginning to realize the need for planning and for directing future land utilization, not alone from the standpoint of beauty, but from that of all the other factors which affect human welfare even more profoundly. They are beginning to realize the need, also, for correlating the costs of the communal attachments to land, which provide the framework for the city plan, with the capacity of the owners of the lands served by those attachments to utilize and pay for them.

The regional planners are dreaming of extending the same principles beyond the narrow confines of single municipalities into entire economic regions, and

are endeavoring to create the new governmental instrumentalities necessary for the effectuation of their dreams. Forward-looking utility corporations which are engaged in providing essential communal attachments to land are, here and there, building up regional plans for their own services, with the aid of economists, sociologists, and statisticians who are expert in the theory of probabilities. Government officials, theoretical economists, and the paid representatives of large taxpayers and ratepayers are struggling with the problems of apportioning among the individual users of land the costs of providing, maintaining, and operating the multiform communal attachments to land.

All of these groups are concerned with the going value of real estate which, in the last analysis, they are endeavoring to appraise on a regional basis. Furthermore, their activities have a profound influence both on the total and on the relative going values of the individual land parcels within their region, and on the values of the buildings erected on these parcels.

As these specialists progress toward the solutions of the phases of the problem which they have assumed as their own, the problem of the appraiser of individual parcels will become simpler. Every advance on their part means a narrowing of the limits within which future gross incomes, and the necessary deductions from those incomes, will fluctuate; every such advance means, consequently, an advance also on the part of the appraiser toward the economist's concept of the going value of real estate.

# Tenancy Versus Ownership as a Problem in Urban Land Utilization

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and

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OUR knowledge of urban ownership and tenancy is considerably less than that of farm tenure. At least, this is true statistically. Since 1880, we have had census figures on the number of farms operated by owners and tenants. Later, data on acreage as well as farmers were made available. Studies by the colleges of agriculture and the United States Department of Agriculture have revealed the reasons for the varying amounts of tenancy in various sections of the United States. We know a great deal about the land owners who are leasing lands to tenants and the relationship between the two. The 1925 census revealed the fact on a nationwide scale that about twenty-eight per cent of the tenants were related to their landlords as sons, sons-in-law, or in other ways. We have discovered that the various forms of tenure—ownership, ownership with encumbrance of a mortgage, part ownership with a portion of the land rented, tenant, and hired labor—are, in fact, a ladder upon which the American farmer progresses. The 1920 census gave us the information for the nation as a whole, while individual studies have filled in the details of the picture for states or parts of states. We also have considerable information on the social effects of tenancy and the relation of tenure to agricultural practices and efficiency.

## TENANCY A FORM OF OWNERSHIP

Much of our thinking about tenure and ownership is colored by our rural heritage, and, in some respects, by feudal and European experience with ownership and tenancy. The very word "landlord" brings to mind a picture of one who "lords" it over an unfortunate tenant. It reminds us of the days when the proprietor of land was in fact a lord, and in some countries he could not assume that title unless he was the owner of landed property. We are inclined to think in terms of ownership versus tenancy, as if the two were diametrically opposed forms of tenure. However, if property ownership consists of a bundle of rights which the owner exercises over a property object, it is easily understood that tenancy is only a form of ownership. Ownership of property is never absolute. It is always subject to eminent domain, the police power, and taxation by the state. The owner's rights may be circumscribed by entail, primogeniture, and many other legal qualifications, and may be fixed in time. However, the ownership in fee simple usually implies rights in perpetuity. The tenant, on the other hand, when he leases landed property, is granted certain rights in the land for a definitely fixed period of time. The rights thus transferred by the land owner to the tenant are pre-

scribed by the terms of the lease, which itself is subject to law and custom. The difference between ownership and tenancy is, therefore, merely a difference in the number of rights and the length of time these rights are enjoyed by the user of the property. Of course, the two parties to a lease may have different economic power, and tenancy has often been, and may still be, an unfair division of rights and incomes between landlord and tenant.

Urban tenancy is much more complex than is rural tenancy. In the latter, there is no residential property separate from business, industrial, or other property. The farm and home are one. With rare exceptions, the tenant-operated farm is also a tenant-occupied home. This does not hold, however, for those cases where an owner has rented additional land. When urban tenancy is mentioned, we must distinguish between residential and other tenancy. The renting of business buildings, offices, or even office space, land for industrial purposes, and so forth, is so common that it is not considered a "problem." Business leases take various and sometimes eccentric forms. Ninety-nine year leases are regular business practices, but there are also air rights, and other less well-known forms of leases.<sup>1</sup> In this paper, we shall concern ourselves entirely with tenancy and ownership of homes.

#### VARIOUS FORMS OF URBAN HOMES

What is a "home"? The simplest and the most understandable form is that of a single, detached house, occupied by one family. This is much like the farm home of the country.

<sup>1</sup> A recent compilation of long-term leases which may be of interest to some readers is Fisher and Neihuss, "Catalog of Long-Term Leases in Detroit," *Univ. of Michigan Business Studies*, vol. 4, no. 5 (1929).

However, particularly in the East, a single family dwelling is not always detached, but is often a unit in a long row of houses. Each dwelling, moreover, constitutes a separate property, and may even have its own architectural design. Such a family may rent one or more rooms to individuals and add to the income by having "roomers." Strictly speaking, the home is now no longer an owner-occupied dwelling. In some cases the house is rearranged for light housekeeping purposes in order to permit its occupancy by a second family, making the dwelling into a two-family house.

The two-family house, which intentionally provides for two families living entirely separate, is either a duplex or a flat. In the latter case, there are generally two identical floors with separate entrances, separate heating plants, separate electric, gas, and water meters, and so forth. In the duplex, the two families occupy separate parts of the house, side by side. Very often the owner occupies one of the units himself and rents the other, and may perform some of the services for his tenant. Flats often include more than two floors, and may occur detached, or in solid rows like the "row houses" mentioned above. Arrangements such as these are clearly "multi-family" dwellings.

The final form of multi-family housing is, of course, the apartment. Here a great many living units or "homes" are placed under one roof. These units are arranged in size from one-room apartments to six or more rooms, to suit the needs and desires of tenants. Instead of the ownership lodging with one of the residents of the building, the owner may be a corporation, with bond issues and stocks. Service has become centralized. Instead of separate heating plants for each home there is a central plant. The care of

the building is entrusted to a paid janitor. The tendency is more and more to furnish *service* with the building as well as mere shelter, and in some cases this approaches hotel service, with maids, dining-rooms, garages, and so forth. The owner pays for most of this service in his rent. The apartment building of twenty-five to thirty stories is the ultimate in multi-family housing. These apartments are located on high-priced land in order to afford accessibility to the business offices of their occupants. Placing a great many "homes" under one roof, in the form of skyscrapers, makes for economy. Likewise, coöperative service, heating, janitor service, and so forth, is cheaper than if these services were performed with the same elaborateness and efficiency in single family, detached houses.

As we have progressed from the simple, single family "home" to the elaborate, multi-family apartment, home ownership has been gradually superseded by tenancy. The many family apartment houses are practically all tenant occupied. However, the coöperative apartment is a movement to restore occupier ownership in multi-family houses.

Finally, there is the combination business and residential building. In smaller cities, the lower floor is often occupied by a store, a restaurant, and so forth, while the second floor is arranged for apartments. These may or may not be occupied by the owner. In larger cities, where buildings are many stories high, the combination may take other forms.

The types of homes briefly described so far lend themselves to ownership or tenancy in various degrees. As a rule, the single family home is occupied by the owner. In very few cases does a builder erect a house as a permanent renting proposition. He may rent it as a temporary expedient because there is

no immediate sale for it, or the owner may have to leave the city, and may rent the house until a buyer appears. However, in small industrial towns, factories often erect single family dwellings which are rented to their employees. These "company houses" are often of one type of architecture and are not very attractive.

Other cases where dwellings designed for single families come upon the rental market is in the so-called "blighted districts," where business use is superseding residential use. The owners sell, and the houses either become rooming-houses or are rented to several families. The same thing may happen where one group moves out because of the infiltration of another race.<sup>2</sup>

The two-family houses and the other more complex multi-family dwellings are distinctly built for rental purposes, and ownership of one of the units is only incidental. As stated above, coöperative housing is designed to permit ownership of multi-family dwellings.

Ownership and tenancy are, therefore, closely connected with the type of city. Where the single family house can persist economically, home ownership is easier than where it cannot. The large city, where multi-family dwellings are an economic necessity, is favorable to tenancy.

#### THE TREND IN URBAN HOME OWNERSHIP

The Federal census presents figures on home ownership and tenancy of *homes not on farms* from 1890 to 1920.<sup>3</sup> In contrast to rural tenancy, which in-

<sup>2</sup> A realistic comparison of a "blighted district" with an adjacent "high-class" residence area which is rapidly turning into an apartment district, written from the point of view of a sociologist, is Zorbaugh, *The Gold Coast and the Slum*.

<sup>3</sup> U. S. Census, 1920. Monograph II, *Mortgages on Homes*; U. S. Census, 1920. Vol. II, *Population*, chs. 14-15.

creased from 28.4 per cent in 1890 to 38.6 per cent in 1920, urban tenancy decreased from 63.1 per cent in 1890 to 59.1 per cent in 1920; conversely, there was an increase in the proportion of owned homes from 36.9 per cent to 40.9 per cent in 1920. Table I presents the data by sections for the United States. In 1890, the percentages of rented

in 1910, joining the almost universal decline in the percentage of rented homes.

However, general statistics for whole sections obscure tendencies for cities of varying sizes. *Homes not on farms* are to be found in the smallest village as well as in the largest metropolis. Taking the twenty-six largest cities of the

TABLE I—PROPORTION OF OWNED AND RENTED HOMES BY SECTIONS AND GEOGRAPHIC DIVISIONS, 1890-1920 \*

Section and Division	Per Cent of All Homes Not on Farms †							
	1920		1910		1900		1890	
	Rented	Owned	Rented	Owned	Rented	Owned	Rented	Owned
United States . . . . .	59.1	40.9	61.6	38.4	63.8	36.2	63.1	36.9
The North . . . . .	58.6	41.4	61.2	38.8	62.4	37.6	60.9	39.1
New England . . . . .	64.6	35.4	67.4	32.6	66.2	33.8	64.9	35.1
Middle Atlantic . . . . .	66.3	33.7	69.4	30.6	70.1	29.9	67.8	32.2
East North Central . . . . .	52.3	47.7	54.2	45.8	55.5	44.5	53.3	46.7
West North Central . . . . .	47.8	52.2	49.6	50.4	53.4	46.6	54.5	45.5
The South . . . . .	62.3	37.7	66.2	33.8	70.4	29.6	72.0	28.0
South Atlantic . . . . .	63.3	36.7	68.5	31.5	72.7	27.3	73.1	26.9
East South Central . . . . .	64.4	35.6	67.1	32.9	71.4	28.6	72.5	27.5
West South Central . . . . .	59.1	40.9	61.6	38.4	64.8	35.2	68.4	31.6
The West . . . . .	56.1	43.9	53.3	46.7	57.1	42.9	55.9	44.1
Mountain . . . . .	55.1	44.9	53.2	46.8	52.9	47.1	50.9	49.1
Pacific . . . . .	56.6	43.4	53.3	46.7	60.0	40.0	59.2	40.8

\* U. S. Census, 1920. Monograph II, *Mortgages on Homes*, p. 39.

† Includes distribution of unknown as to tenure.

urban homes for the two Central sections were 53.3 and 54.5 per cent; only the Mountain section was lower, with 50.9 per cent. Next in order was the Pacific section, with 59.2 per cent. The East followed, and the South was the highest of all. By 1920, there was a noticeable tendency to narrow the spread between the various sections, with the greatest decrease in the South and an increase in the Mountain states. Some of the sections reached their peak of tenancy after 1890; most of them did so in 1900; and New England reached it

United States (those which had a population of one hundred thousand or more in 1890), the percentage of homes owned in 1890 was only 22.8, but it increased to 26.9 per cent by 1920. The lowest percentage of home ownership was in New York, with 10.6 per cent, and the highest was in Rochester, New York, with 44 per cent.<sup>4</sup> In 1920, the lowest was again New York, with 12.7 per cent of the homes owned, and the highest was Omaha, Nebraska, with

<sup>4</sup> U. S. Census, 1920. Monograph II, *Mortgages on Homes*, p. 59.



48.4 per cent. Baltimore and St. Paul were very near the top, with over 46 per cent. A regrouping of these twenty-six cities showed that the ten most rapidly growing cities had a smaller population of owned homes than those with a slower growth.

Taking a second group of fourteen cities, with a population of twenty-five thousand to one hundred thousand in 1890, with a very rapid growth between 1890 and 1920, a decided increase in home ownership was quite noticeable for the smaller cities. These fourteen cities had 32.3 per cent of home ownership in 1890, and 37.6 per cent thirty years later. The range at the former date was between 10.2 per cent for Birmingham, Alabama, to 56.2 per cent for Akron, Ohio. In 1920, Norfolk, Virginia, was at the foot of the list, with 23.2 per cent, and Canton, Ohio, was at the head, with 54 per cent. Akron had only 44.7 per cent at this period. Some fifteen cities with a slow rate of growth increased from 33.3 per cent home ownership in 1890 to 37.5 per cent in 1920.

These figures must be taken to signify a general trend. To know what is taking place in any particular city, it is necessary to be familiar with that city. No doubt, the automobile, better roads and streets, suburban transport by steam, electricity, and bus, which had a great development in the period covered by the census (1890 to 1920), helped to decentralize cities. People can now live further away. Here land is cheaper and single family dwellings, surrounded by a fair sized lot, are possible and within the reach of many people. Subdivisions about all our cities are testimony to this tendency. However, most of these single family homes occupied by owners are outside of the city limits of many of our large cities, either in the open country or in smaller towns and villages—the suburbs and

satellites of the mother city. Statistics for residential suburbs, therefore, show a high proportion of home ownership. The main city, with constantly increasing land values, greater industrialization, and commercialization, may actually lose residential population, and will certainly increase its multi-family dwellings and tenant-occupied homes. Unfortunately, the census does not report the percentage of ownership and tenancy of cities having a population below ten thousand. However, a few examples from the data available will make this clear. In 1920, 97.9 per cent of the homes in Manhattan Borough were rented, 91.8 per cent of those in the Bronx, 80.7 per cent in Brooklyn, 63.3 per cent in Queens, and only 57.3 per cent in Richmond. Chicago had 73 per cent of its homes rented in 1920, but two of the suburbs of Chicago, Evanston and Oak Park, had 59.7 per cent and 37.4 per cent, respectively, of tenant occupied houses.

In other cases, annexations of residential suburbs changed the ratio of owner to tenant homes as recorded by the census, but left the original city with no more owned homes than before. Yet, in spite of all these qualifications, the increase in home ownership was real and satisfying.

#### NUMBER OF FAMILIES PER DWELLING

Other data, however, throw additional light on this problem. The census also reports the number of families per dwelling. The definitions of "family" and "dwelling," as used by the census, are not the usual ones, yet they will serve to indicate the trend of tenure.<sup>5</sup> If there were a family for each dwelling, there obviously would be no excess of families over dwellings. However, in New York, for instance, there were 2.95 families per dwelling in

<sup>5</sup> *Ibid.*, pp. 19-20; or U. S. Census, 1920. Vol. II, *Population*, ch. 14.

1890, and 3.49, in 1920. In Chicago, this ratio increased from 1.72 to 1.86 in this period. The average for the twenty-six largest cities was 1.74 in 1920, but it was 1.92 for the ten cities with the most rapid growth. A comparison of the percentage of tenancy with the figures showing excess of families over dwellings shows a very general correlation between these two factors. The only cities where the correlation is not close are Southern cities, with one exception, namely, Indianapolis. Negro tenants in the South are housed largely in rented single family units, rather than in multi-family units.<sup>6</sup>

The census figures of 1920 are now ten years old, and many changes have taken place in city structure, in building construction, in transportation, and

*Monthly Labor Review* of June, 1929, clearly show this trend in residential construction (see Table II). They are based upon the building permits issued in two hundred and fifty-seven identical cities for the period 1921-1929. In 1921, 224,545 families were provided with housing in these cities, of which over fifty-eight per cent were in one-family houses, seventeen per cent in two-family houses, and twenty-four per cent in multi-family dwellings. By 1926, the situation was reversed. Multi-family dwellings were built for forty-five per cent of the families, and only forty-one per cent were placed in single family houses. Two-family houses provided shelter for only about fourteen per cent of the families, as compared with seventeen per cent in 1921. In 1928, multi-family housing

TABLE II—PERCENTAGE OF FAMILIES PROVIDED FOR BY NEW RESIDENTIAL CONSTRUCTION IN SINGLE FAMILY, TWO-FAMILY AND MULTI-FAMILY DWELLINGS, 1921-1928, IN 257 CITIES OF THE UNITED STATES \*

Year	Number of Families	One-Family Dwellings	Two-Family Dwellings	Multi-Family Dwellings
1921.....	224,545	58.3	17.3	24.4
1922.....	337,305	47.5	21.3	31.2
1923.....	453,673	45.8	21.2	33.0
1924.....	442,919	47.6	21.5	30.9
1925.....	491,222	46.0	17.5	36.4
1926.....	462,214	40.7	13.9	45.4
1927.....	406,095	38.3	13.4	48.3
1928.....	388,678	35.2	11.1	53.7

\* Based upon building permits issued for the year. *Monthly Labor Review*, June, 1929, p. 154.

in general living conditions. The multi-family dwelling has gained over the single family home, and the two-family dwelling seems to be losing ground even more than the latter. The obvious implication of these facts is that the decrease in urban tenancy has been reversed by post-war conditions. The figures published by the Bureau of Labor Statistics in the

provided shelter for more families than the other two types put together.

Figures for 1929 are not yet available for the entire group of two hundred and fifty-seven cities. The Bureau of Labor Statistics, however, has published data for the first six months of 1929 for the eighty-five cities estimated to have a population of one hundred thousand or more.<sup>7</sup> Table III indi-

<sup>6</sup> Dorau and Hinman, *Urban Land Economics*, pp. 409-12.

<sup>7</sup> *Monthly Labor Review*, Oct., 1929, pp. 121-154.

TABLE III—FAMILIES PROVIDED FOR IN NEW RESIDENTIAL CONSTRUCTION IN SINGLE FAMILY, TWO-FAMILY AND MULTI-FAMILY DWELLINGS DURING THE FIRST SIX MONTHS OF 1928 AND 1929 IN CITIES OF 100,000 AND OVER\*

Year	Total Number of Families	Percentage of Families Provided for in		
		Single Family Dwellings	Two-Family Dwellings	Multi-Family Dwellings
1st half of 1928.....	195,216	30.7	10.6	58.8
1st half of 1929.....	142,066	30.5	10.0	59.4

\* *Monthly Labor Review*, Oct., 1929, p. 125.

TABLE IV—INCREASE IN PERCENTAGE OF TOTAL FAMILIES PROVIDED FOR IN MULTI-FAMILY DWELLINGS, 1921-1928, BY POPULATION OF CITY

Population Group	1921	1928	Increase in Percentage, 1921-1928
1,000,000 and over.....	42.91	76.56	33.65
500,000-1,000,000.....	22.56	46.79	24.23
250,000- 500,000.....	17.68	50.16	32.48
100,000- 250,000.....	12.78	33.70	20.92
50,000- 100,000.....	16.52	26.53	10.01
25,000- 50,000.....	11.13	31.99	20.86

TABLE V—INCREASE IN PERCENTAGE OF TOTAL FAMILIES PROVIDED FOR IN MULTI-FAMILY DWELLINGS, 1921-1928, BY TYPE OF CITY

Type of City	1921	1928	Increase in Percentage, 1921-1928
Central Metropolitan.....	30.34	62.59	32.25
Suburban.....	25.68	58.33	32.65
Independent.....	10.12	17.84	7.72

cates that despite a severe drop in the amount of residential construction in 1929 the multi-family trend, in the large cities at least, has not been stopped.

The customary treatment of these data or of general facts on the same subject is to dismiss them as describing a phenomenon of the large cities. Table IV, computed from the data given, however, indicates that size alone is not as influential as popularly assumed. Of course, the change has not been without breaks, but in all ex-

cept the smallest size group provision was made in 1928 for the largest multi-family percentage of total families. The highest percentage in this population group was in 1927, 38.24 per cent, or an increase of 27.11 per cent above the low of 1921. This increase would be the third largest of the six classes given.

#### TREND TOWARD MULTI-FAMILY DWELLINGS

The data of Table V give a more positive conclusion, namely, that the

trend toward multi-family living is more a metropolitan phenomenon than mere size groupings would indicate. The definitions of central metropolitan and suburban cities used are those of the 1920 census for the definition of metropolitan areas; all other cities are classed as independent. The striking fact here is that the suburb, usually looked on as the refuge of the home owner, shows a slightly larger *change* toward multi-family units than do the central cities.

Table VI affords some interesting comparisons with Table I. The multi-family trend, with the inferred increase in tenancy, has affected some sections which in 1920 had high percentages of ownership. The East North Central sections and the Pacific states are excellent illustrations. The West North Central area, which had the highest percentage of home ownership in 1920, showed the only decrease in multi-family units in comparing 1928 with 1921. This does not show accurately, however, the trend in the section. The multi-family percentage rose from 19.70, in 1921, with only one break to 38.19, in 1927. The 1928 drop to 19.56 per cent obscures this fact. The two-family group also showed a substantial increase, from 3.21 per cent to 11.47 per cent in 1928.

Two warnings are called for. The increase from 1921-1922 in the multi-family percentage was very sharp in most groups. This accentuates the total increase over the period, but the time of the largest increase is significant. All the data given are for new residential construction for the different years and the percentages are of total families provided for by the construction of each year. It should be noted that whereas the total number of families provided for in two hundred and fifty-seven cities reached a maximum in 1925, the multi-family trend has continued since that date. The same statement holds true for nearly all the classifications made so far.

The Bureau of Labor calls attention to the social significance of this trend:

Just what effect this change in the type of dwelling will have on the social, economic, and political life of the country is hard to determine. That it will have its impress on the character and life of the people is an undoubted fact. Few apartment dwellers are home owners.<sup>8</sup>

The reasons for the drift to multi-family housing are economic and social. In the first place, it is less expensive to provide comparable housing on the multi-family plan than in single units, and still less expensive to maintain

<sup>8</sup> *Monthly Labor Review*, June, 1929, p. 154.

TABLE VI—INCREASE IN PERCENTAGE OF TOTAL FAMILIES PROVIDED FOR IN MULTI-FAMILY DWELLINGS

Section	1921	1928	Increase in Percentage, 1921-1928
New England . . . . .	23.10	43.21	20.11
Middle Atlantic . . . . .	35.31	70.51	35.20
East North Central . . . . .	24.60	47.48	22.88
West North Central . . . . .	19.70	19.56	— .14
South Atlantic . . . . .	14.00	35.90	15.90
East South Central . . . . .	10.61	26.69	16.08
West South Central . . . . .	8.76	17.89	9.13
Mountain . . . . .	8.63	25.84	17.21
Pacific . . . . .	20.26	51.16	30.90

services such as heating, lighting, and the like. The estimated costs of residences and apartments given in the building permits show this. They are estimates, of course, and are below the true cost of construction and the figure at which the dwelling is sold to the purchaser.

Figures on costs as stated in building permits are available for the same two hundred and fifty-seven cities as above and are presented in Table VII. It

pied by a two-family dwelling, it is divided in half, and as the number of families increases the smaller will be the land cost per family.

This statement, of course, would be correct if the value of the lot remained the same under these various forms of utilization. As a matter of fact, land values reflect the present and the possible intensity of use, and a site suitable for multi-family dwellings would be much more valuable than one suitable

TABLE VII—COST OF DWELLINGS PER FAMILY AS ESTIMATED IN BUILDING PERMITS ISSUED IN 257 CITIES OF THE UNITED STATES \*

Year	Single Family (in dollars)	Index	Two- Family (in dollars)	Index	Multi- Family (in dollars)	Index
1921	3,972	100	3,762	100	4,019	100
1922	4,134	104	3,801	101	3,880	97
1923	4,203	106	4,159	111	4,001	100
1924	4,317	109	4,336	115	4,418	110
1925	4,618	116	4,421	118	4,289	107
1926	4,725	119	4,480	119	4,093	102
1927	4,830	122	4,368	116	4,170	104
1928	4,937	124	4,064	108	4,129	103

\* *Monthly Labor Review*, June, 1929, p. 152.

will be noted that in 1921 the average cost per family for single family dwellings was \$3,972; \$3,762 for two-family dwellings; and \$4,019 for multi-family dwellings. With the exception of one year, the cost of multi-family housing fell below that of single family houses. The trend is best shown in the columns showing the index, using 1921 as a base. In 1928, the per family cost of multi-family units had risen to only 103, as compared with 108 for two-family, and 124 for one-family dwellings.

The figures are for construction only; the price of the land is not included. Multi-family utilization is also a more economical use of land. If a single family dwelling occupies a lot, the whole land cost falls on one unit; occu-

ried by a single family house. The land cost per family, therefore, tends to be more equal than the above general statement suggests. Perhaps the best way to illustrate the principle is to see how the land cost per family is increased if an owner erects or maintains a single family house on a site economically suited for an apartment.

#### FACTORS AFFECTING URBAN OWNERSHIP AND TENANCY

Costs of housing must be compared with incomes. A study of incomes of the urban residents will make it clear that hundreds of thousands of wage earners have incomes so low that the ownership of single family units is out of the question. They must be satisfied with renting in multi-family



dwellings, and many of them in the cheapest of tenements and apartments. The New York State Board of Housing reported that very little of the housing recently erected by private enterprise has been within the reach of the wage-earning class, even on a rental basis. Almost all of this class fall within the group earning twenty-five hundred dollars or less per year, which means that they should not pay more than six hundred dollars a year for rent—the average rental is nearer five hundred dollars a year, or \$12.50 per room. Less than three per cent of the new construction was offered below this rate.<sup>9</sup>

The realtors' slogan, "Own Your Home," can have no meaning for these people. It has been said that the amount spent for the purchase of a home should not be more than two or two and one-half times the gross income of the individual. In a typical city like Milwaukee, the average single family building permit for 1929 was \$5,478; the two-family dwelling was \$4,055; and in multi-family units only \$2,905 per family. Adding the value of the lot and making allowance for underestimates in the building permit, the average home in Milwaukee would cost eight or nine thousand dollars. It would take an income of nearly four thousand dollars a year to own the average home in this city.

However, the movement into apartments is not solely because of greater economy. Many modern apartments cost more per family than good single family homes, but they have more rooms, are furnished more expensively, and the services rendered are more elaborate. Modern construction and invention have provided new comforts and conveniences, which are entirely absent or else very costly in the usual home. This is in line with the modern

way of living. Women have more and more interests outside of the home, and the workshop part of the house has shrunk in proportion. More of the functions of the old type of home are now done commercially away from the home. Laundering, and cleaning of rugs and clothes, are examples. Food is bought prepared, or almost so. There is more "eating out." Part of this is due to the distance between the office or the shop and the home, but part of it is from deliberate choice. It is estimated that one-sixth of all the food used for human consumption in the United States is served in public eating places. In New York City alone, \$1,250,000 is spent by two million patrons daily, many of whom not only eat one meal, but two and three meals, away from home.<sup>10</sup> Like the farm, the home is becoming mechanized. Electric refrigerators, vacuum cleaners, dishwashers, washing machines, and ironers are a part of the modern home, and many of them are "built in" features in the higher priced apartments. Mechanical devices have taken the place of the vanishing servant, whose domain was once the single family home.

However, it is not only the women, but also the men, who are glad to pay for the extra services which the apartment offers over the single family house. The head of the house is relieved of caring for the furnace, carrying ashes, mowing the lawn, making repairs, and so forth, which occupations fall to his lot if he owns his home. He either has to do this himself or has to have it done. Men are shifting their interest from gardening and similar semi-rural pursuits to golf, the country club, motoring, and other pastimes. In fact, some of these pursuits are responsible for the change in the modern home itself. Only in

<sup>9</sup> *Monthly Labor Review*, Sept., 1929, p. 105.

<sup>10</sup> *New York Times*, Aug. 18, 1929.

smaller cities does the home owner maintain a connection with the soil.

Apartments which offer all these extra services are not necessarily cheaper than the average home. In fact, they make the cost of shelter higher, but tenants are glad to pay for service, a striking architecture, a well sounding name, and convenience. The social prestige once associated with the ownership of a big house seems to have waned in favor of a "grand apartment" in some "Manor" or "Arms." This is, no doubt, one of the reasons for the building of apartments in small cities which were primarily one-family dwelling towns.

#### APARTMENT SECTIONS

Since there is little special prestige attached to the ownership of a single family home and greater conveniences in the "cliff dwellings," there is a tendency for whole districts to become apartment sections. Such sections offer accessibility to the business district itself, or to transportation. This has been the case in the "near in" sections of New York, east of the Grand Central zone and in the "Streeterville," North Michigan Boulevard, area of Chicago.

According to the *New York Times*, this heightened preference for living in apartments is the final break with the rural tradition, the last step in urbanization. . . . Invasion of suburban regions by apartment houses has been marked by a curious failure to preserve some of the charm of the countryside while providing multiple dwellings. . . . Presumably the automobile enables the apartment house dweller to get "back to nature." But this, too, is at the expense of an increased sense of transiency.<sup>11</sup>

Another influence which must be taken into account is the recent condition of the real estate market and of the house-building industry. Present

<sup>11</sup> Quoted in *Literary Digest*, July 13, 1929, pp. 58-59.

day modes of living, with their high degree of economic specialization, have made the average prospective buyer more and more ignorant of residential land values and of construction methods. He has to rely on the statements and opinions of real estate men and contractors. Unfortunately, this reliance, particularly in the larger cities, has too often been misplaced. Naturally enough, a person who has been sold a subdivision lot which cannot be used for a generation, when he has been promised immediate installation of improvements and increase in value, or who has suffered from the effects of a shoddy construction job, is not an enthusiastic prospect in the market for residential buildings. The force of this influence can only be guessed at on the basis of present data, and comparisons with the other factors mentioned, therefore, cannot be made. That it is an influence in the decline of ownership cannot be doubted, however, and it is equally clear that the penalty falls not only on those who have caused the undesirable situation, but also to a considerable extent on the intelligent and honest members of the two businesses who do not engage in such practices.

The competition of the sellers whose products demand large expenditures has undoubtedly become keener. Radios, motor cars, travel, to mention only a few, are sought today by classes of persons who a few years ago would have considered them (or their counterparts) entirely unattainable. The common opinion that the funds formerly set aside for the purchase of a house and lot are now absorbed by installment payments on these other goods, undoubtedly is founded, to some extent, on facts. To what extent the description is accurate, however, is another question, and one which today cannot be answered.

Personal factors must be considered, also. Those who have occupations which require moving about do not like to be burdened with real estate. If they have to move suddenly, they may have to place the home on a "buyers' market," or lease it for a while as absentee owners. America has an unusually unstable population. People are always shifting from one city to another as their work changes or as promotions come to the head of the family. There is also a good deal of shifting within cities, some of it because the tenant can afford to move to more comfortable quarters, and some of it simply because people are tired of the old neighborhood. For this reason, multi-family units have become more or less standardized, so that the usual furniture will fit the usual apartment. The family with a large davenport or an odd rug is often "out of luck." The first of May exodus is a vivid reminder of this situation.

There are great variations in nationalities and races with respect to their reaction to home ownership. A study made in St. Paul showed that the Germans, Americans, Scots, and French ranked lowest in the districts surveyed.<sup>12</sup> Watertown, Wisconsin, a small city largely settled by Germans, boasted of the fact that it was the "second city in the United States from the viewpoint of the ownership of homes by its inhabitants."<sup>13</sup> These data are too meager, however, to serve as a basis of generalizations.

#### THE FINANCIAL ASPECT

However, aside from any individual preferences, there is a personal financial aspect to the problem. To buy a home

in the larger cities of the United States means an expenditure of an average of at least four thousand dollars for construction alone. This is the largest single outlay the average wage earner will make. Few people starting in life have that amount of money on which to begin "housekeeping." Home buying is of necessity one of the first installment purchases we have. Financing of home buying is, therefore, the crux of the situation. How soon the young man can become the owner of a home depends upon the local values of real estate, his income, the method of financing at his command, and the size of the down-payment. For a while, he may have to rent an apartment or a house, no matter how anxious he is to "own a home." As in rural tenancy, there is a ladder to ownership which the average man must climb, unless he is fortunate enough to inherit his home or to have it presented to him. We know in a general way that many people begin their career by renting a few rooms, then a small apartment, a larger one, and finally they purchase a home. The multi-family house is admirably suited to the needs of such "climbers." In other cases, the bungalow which serves as the first home later is sold and a larger and more pretentious house is built or bought. Sometimes only a first unit is built and other rooms are added as they are needed or finances permit. The exact nature of this "climb" has not been studied, as in the case of the farm tenure. It would be of interest to urban land students and to realtors to know just how urban dwellers of different classes "climb the ladder" from tenancy to home ownership. However, in late years it has become doubtful if the ownership of a home is really the goal of as many people as it was in the past. Too many other interests have taken the place of the

<sup>12</sup> Dorau and Hinman, *op. cit.*, pp. 405-6.

<sup>13</sup> William F. Whyte, "Chronicles of Early Watertown," *Wisconsin Magazine of History*, March, 1921, p. 313.

home. There are cases where owners have sold their homes and become "cliff dwellers." The problem is to give urban residents the convenience and the economy of multi-family dwellings *with ownership*.

#### SUGGESTED MEANS OF INCREASING HOME OWNERSHIP

Because the recent trend in residential construction indicates a decline in urban home ownership, many proposals for changing conditions have been put forward. The purpose of this section is to state concisely the nature of some of these proposals and to comment briefly on them. A preliminary warning, however, is necessitated by the uncritical manner in which the problem has often been treated. Too much effort has been spent in painting attractively the benefits of home ownership and of camouflaging the disadvantages. In most cases the disadvantages of ownership must be carefully weighed against the benefits. Without doubt, for many classes of persons the disadvantages outweigh the benefits. Frank recognition of these facts is indispensable to a discussion of the means of increasing ownership.

Let us list the chief obstacles to ownership and estimate the effectiveness of the various methods of attacking them. Such a list would include the following: (1) the uncertain value of small holdings of urban land at certain times; (2) the possible decline of the value of property due to influences outside of the control of any owner; (3) the large proportion of taxation for local governmental purposes which is borne by urban land; (4) the costs of financing home ownership, particularly when second mortgages are required; and (5) the difficulties of reducing construction costs by large-scale building methods.

*Uncertain value of small holdings at*

*certain times.*—The real estate market is notably sporadic. Careful indexes of its activity are just being made, but the general fact is well understood. The "booms" and depressions are more severe in dealings in some kinds of properties, e.g., subdivision land, than in others, e.g., apartment property. In a severe depression in the small house market the value, in the sense of immediate exchange value, drops enormously. The equity in a mortgaged home may be almost entirely wiped out. The "willing seller," of course, is seldom a party to exchanges in such a market, and many real estate men refuse to consider the terms of such sales as evidences of the "real value" of the property. This is not the place to examine such a statement; at best, it is poor consolation to the small owner who has to sell.

Some help for the situation comes from any smoothing out of the general business cycle. But more must be done. Encouragement and aid in preparing reliable quantitative measures of market conditions in individual communities, vacancy surveys, permits granted, and so forth, as have been given by the National Association of Real Estate Boards, are undoubtedly steps in the right direction. Planning bodies which have assembled lot counts of subdivision activity are contributing reliable information. Efforts to make the real estate man an adviser interested in a fairly constant, healthy business, rather than a salesman looking for a harvest of commissions "while the sun shines" will help if they are successful. Attempts to broaden the market by multiple listing, or other means, should not be abandoned without a thorough trial under a variety of conditions. Proposals aiming to simplify and to cheapen the mechanics of property transfers—the Torrens system, for example—ought to be given



serious consideration. Finally, real estate propaganda must be much more rigidly examined. Its purpose must be to present facts about real estate and not to present optimistic myths. Statements such as the ones seen recently in the same issue of a local real estate magazine of wide circulation—one to the effect that urban real estate is a superior investment because its "value" is maintained in periods of depression, the other urging buying of real estate now because of the bargains which may be secured—are scarcely adequate to educate and to convince sensible persons. Confidence which will help maintain a fairly steady and healthy market can rarely be built on such a light foundation as this.

*The possible decline of values due to uncontrolled development.*—The protection of property values from untoward influences from adjacent developments and improvements has made rapid strides in recent years. Zoning has advanced both in popularity and in method; subdivision control ordinances are attacking many difficulties in their early stages; restrictions in deeds have undergone some distinct improvements. The great danger at the present time is a neglect of the actual administration and the amendment of the control devices. Real estate men, as well as planners and others, have too often been content with the setting up of a neat-looking machine for control and have overlooked the part played by the men who operate the machine. Two recent Illinois cases<sup>14</sup> have attracted wide interest because they reveal a manipulation of zoning for private ends, which is as brazen as it is

dangerous. "Protection" to the small property owner from an ordinance which is amended at will and altered radically by the Board of Appeals will soon cease to act as an encouragement for widespread ownership of urban land.

*Tax burden on urban land.*—Real estate taxation problems are the subjects of other papers in this volume. Here the obvious fact need merely be mentioned that the weight of the general property tax on urban real estate and, in some cases, the inequity of its assessment, discourages home ownership as well as investment in other types of real estate, under our present economy. Other aspects of land taxation are not pertinent to the subject of this paper.

*High costs of financing small houses.*—On this point, again, only a reference can be made to one side of a very significant subject. Second mortgage financing is the sore point in small house finance today. The common rates of from ten to fifteen per cent or more are illegal under usury laws, and the illegality probably reduces somewhat the funds available for loans. The system of charging interest, discounts, commissions, and so forth, is a cumbersome method which is confusing, at best, to many borrowers and is often used to extort even higher rates. Practically nothing is known by persons outside the business of the actual risks involved—non-payment, the number of foreclosures, or other pertinent facts.

Three suggested remedies for changes in methods of finance deserve consideration: (a) the removing of second mortgage loans from the scope of the usury laws (or their repeal), in the hope that sufficient funds will be attracted to lower the rates; (b) a system of "public credits," i.e., loans by public agencies at low rates of interest to house building companies

<sup>14</sup> *Welton v. Hamilton, et al*, No. 19,259 (Oct. 19, 1929), Illinois Supreme Court, not yet reported. *Michigan Lake Building Corporation, et al, v. Hamilton, et al*, Appellate Court of Cook County, Judge Thomas Taylor, Jr. (Dec. 10, 1929)—the "Cuneo case."



or individuals contemplating certain classes of buildings;<sup>15</sup> and (c) the establishing of large, preferably nationwide finance agencies under Federal control to secure funds from the sale of collateral trust bonds secured by mortgages of urban properties.<sup>16</sup> Such agencies would merit confidence without knowledge of the individual mortgages and would facilitate movement of capital from areas of plenty to those of scarcity. The merits and weaknesses of these plans cannot be discussed here. A plea may be presented, however, for their consideration entirely on their respective merits and weaknesses, and not on vague charges of "un-Americanism" and similar generalities.

*Difficulties of securing economies in construction.*—The proposals which may be classified under this heading are diverse. Coöperative apartments have been advocated as a means of securing the lower per family cost of building without some of the disadvantages of rented apartments. But, at present their use is distinctly limited by legal uncertainties, bad promotion, unsound finance, and the annoying difficulties which arise among most classes of people in the management and the control of such enterprises. Limited dividend companies are very promising, but have some difficulty

in securing sufficient capital. Their large-scale construction work is an important contribution in itself, but it is urged by some that unless they are given the power of eminent domain (public limited dividend companies have that power in New York) their activities will usually be limited to outlying areas where large tracts can be bought in acreage. One common prejudice which must be overcome by all attempts at large-scale construction is the association of such methods with the ugly, monotonous buildings which have characterized much speculative building.

No painless remedy or panacea for the problems discussed has been found. With the present distribution of wealth, a large percentage of the population, in all probability, will be unable to own homes, in addition to those for whom ownership is unwise. How large that percentage is cannot now be said, but it constitutes a problem which should receive more attention. The immediate problem is to reduce it as much as possible and at the same time to give more adequate and more satisfactory houses to those who can buy. Properly applied plans for making small urban properties more liquid, the protection of residential districts from damaging influences, the reduction of the tax burden on urban land owners and the financing charges for building and buying houses, and the introduction of economies in residence construction costs, will help to remove the chief obstacles which at present bar the way to many who desire home ownership.

<sup>15</sup> See S. James Herman, *Why "Public Credits" is the Logical and Practical Solution of the Housing Problem of the Lower Income Group*. Michigan Housing Assn., Detroit (1929).

<sup>16</sup> Gray and Terborgh, *First Mortgages in Urban Real Estate Finance*. Brookings Institution, Washington, D. C. (1929).

## Public Guidance in Urban Land Utilization

By SAMUEL PRICE WETHERILL, JR.

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THE wise use of land has always been a problem. Nomadic tribes found it easier to move on to new areas than to try to solve the problem with any degree of permanency. It has remained an unaccepted challenge, even in relatively sparsely settled districts. Large tracts of land under one ownership and devoted to the needs of but very few persons per square mile have too often showed the effect of lack of judgment.

The selection of the ground for such spacious home sites as Mount Vernon and Monticello reflected the discrimination and the judgment of the owners who took account of factors of utility, beauty, accessibility, water supply, and innumerable others, by no means all confined to the limits of the estate proper.

Today the choice of the country, state, or municipality in which one builds involves acceptance of laws and traditions over which a given individual has little control, but which will vitally affect the success of his selection and use of land.

The enjoyment of security, of military or police protection, of legal registry of titles and laws in defense of rights of owners, have come to be taken for granted, yet even these fundamental privileges have been evolved in a long struggle for the wise division of responsibility between the private owner and the state.

### NATURAL RIGHTS AND CIVIL RIGHTS

The old Anglo-Saxons "lived under customs and unwritten laws based upon the natural rights of man, and

permitting the individual to develop freely, normally, and happily."<sup>1</sup> But, safe title and other services to real estate were not viewed as one of these "natural rights"—rather, they were "civil rights" acquired by contract between individuals and the state, and involving payment of taxes and conformity to conditions dictated by consideration for the common weal.

Under the fundamental doctrines of Saxon liberties, upon which American institutions are so largely based, the individual owner of "private property" has ever been a co-planner with the community for the use of his land rather than a single and entirely free agent. His partnership with the community limits both and imposes mutual responsibilities on both, as well as separate responsibilities on each. The community, in fairness, must do its full share, and by the same standard the individual must do his.

The private owner may resent the changing conditions which compel the laying out of city streets through his erstwhile country estate, but the community may be overgenerous in contributing enough enhancement in value to make his neighbors envy what he counts a hardship. Nevertheless, this invasion of the individual's "rights" and this expenditure of public funds for developments which enhance local values at the expense of all the taxpayers cannot be avoided without the sacrifice of public interest.

There may be a closer approximation to justice in the practice of assessing benefits, but these are difficult to ap-

<sup>1</sup> Gilbert Chinard, *Thomas Jefferson*, p. 31.

praise fairly, even for abutting property, not to mention the benefit to neighborhoods.

The more successful private developers are plotting streets and placing restrictions in deeds to protect the whole neighborhood in which they are investing, if the district is new. If it is old, much of their effort is directed toward official sanction for conditions they deem conducive to neighborhood welfare.

Private initiative, unwilling to be hampered by lack of community planning, steps out and plans its own community, or guides the government into concurrence with its own plans, although it would seem more to the taxpayer's interest if the major planning by the community had provided at least a skeleton structure in keeping with easily determinable trends and needs.

#### COMMUNITY VERSUS INDIVIDUAL INTERESTS

In one sense, the title of this article is misleading, since it might imply that all of the decisions regarding the use of land lie with the individual owner, and that the only duty of the public is to guide private judgment. Of course, no such view is held, as it is fully recognized that by far the most significant decisions bearing on the use to which urban land is to be put lie, and ought to lie, with the community and not with the individual, because the provision for the needs of all takes precedence over the preference of any individual owner.

The planning which changed the country estate to the village plot was dictated, if it was well done, not by a narrow, self-interested conception, but by a broad view of community needs and trends. The individual who buys an urban plot has certain rights assured to him today that go far beyond

"common defense" and security for his title. The community owes to him, in exchange for mounting taxes, the enjoyment of protection against various forms of encroachment which are more menacing to his interests than the threat of enemy invasion is ever likely to be.

The owner's right of access cannot fairly be left to follow the winding way of the ancient cowpath, or to be jeopardized by the unregulated use of his neighbor's land, which may, in effect, deprive him of a reasonable enjoyment of public streets. The community has some responsibility, and premature obsolescence of a neighborhood, which may be definitely traced to traffic congestion, points to the fact that some relationship between the burden of traffic and the capacity of streets seems seriously to be wanting.

The owner's right to a pure and adequate water supply, so essential to health, well-being, and the best utility of his land, may not be stolen from him under, as it were, the very nose of his sleeping partner, whose duty it clearly is to protect his interest in this matter!

The owner's right to fresh, clean air, to play space for his children, to safety at home and in the streets, to dignity and beauty in his general surroundings—these he alone can scarcely protect. He must rely on the zeal and the alertness of his partner, the public, who, through acceptance of his tax money, has assumed a responsibility for these services.

The fact that it is difficult for communities to plan ahead, and that they have precedents for their sins of omission, does not exempt them from the duty to plan comprehensively and adequately, not in the interest of some, but of all property owners and their posterity.

There are still alive a few remaining

examples of those who claim that since posterity never did anything for them they, therefore, owe nothing to posterity. Nevertheless, our collective responsibility is clear. We must see that this task is undertaken, and that a way is found for our communities to benefit by the method of scientific planning based on ascertained facts, which has done so much for our industrial and commercial progress.

The supremacy of American industries has been achieved in no small degree by farsighted, comprehensive planning, not based on abstract hypothesis, but on scientifically determined facts, conditions, and trends. The chaos and the inefficiency of much of our public life is due to the lack of just this sort of guidance—the public, who should be guiding, often following far behind the public utilities and large, private corporations, who look ahead.

#### DANGERS OF WANTON LEGISLATION

There are many and real dangers, however, lurking in ambush for the overzealous, who, seeing a need, plunge recklessly into drastic legislation which is perhaps theoretically enticing, but which may prove even more disastrous than the neglect it is intended to rectify. Legislation must be based on a full recognition of essential, fundamental principles, and on facts often not apparent on the surface.

It is wise to proceed cautiously and to avoid hasty recourse to the panacea of new laws. Great administrative confusion will result from creating new official bodies, with power to embarrass existing administrative units, and from passing new laws blocking normal and necessary business pending academic studies by bureaus. The lines of authority and responsibility in our governing bodies are already confused enough. Until the right kind of legis-

lation can be drafted and the soundness of principles proved, it would seem wise to stay away from compulsory planning and zoning legislation; but the time is ripe for right action.

It seems safe to predict that in the readjustments taking place under our rapidly changing economic and cultural conditions those communities will suffer most which have wasted their resources in unsound civic expenditures, and have in consequence incurred heavy indebtedness, with little to show for it. A city beautiful may be a city bankrupt, unless economic factors receive proper consideration. Beauty and healthful surroundings are an asset to any city, but it is a bit risky to get them by driving great industries away from the city. It is sometimes easier temporarily to raise assessments than to maintain prosperity.

Under the rapidly changing conditions of modern science, more and more factors are being found to have vital bearing on the usefulness of urban land. Many of these factors are so remote that to the inexperienced they would seem to have no real significance. To the modern planning engineer, however, every new invention must be scrutinized.

For ages, water and rail transportation were the determining factors in the accessibility and prosperity of cities. The canal and steam railroad made almost the entire continent as accessible as its seacoast, and the automobile revolutionized land values and uses, even as today the radio and the motion pictures are definitely amending the recreational habits of city dwellers and suburbanites, with telling effects upon invested capital. Who shall say what the effect of the airplane will be, and what new inventions will come along to make inadequate the most farsighted and comprehensive of our plans for the future?

### FUTURE PLANS MUST BE COMPREHENSIVE

If our plans for the future are to anticipate with reasonable satisfaction the needs of our posterity, we may rest assured that they must conform to the inherent principles discussed above, and they must provide generously for those human needs which, taken separately, may seem simple enough, but which in the aggregate become increasingly difficult as the population multiplies.

When we say our plans must be comprehensive, we mean that they must comprehend the many different aspects of complicated community life under conditions of ever growing density of population. We also mean that they must be comprehensive with reference to the area which they include, as the interdependence of the residents of one location upon those of another tends to become even more marked.

It has become a proverb among professional planners that the growth of urban population always exceeds that which is indicated by the sober judgment, even of the most expert.

Things happen faster than thoughtful people dare believe they can happen. What highway engineer of the horse and buggy era could have conjured up a mental image of the present day traffic problem? It is authoritatively stated that an expert commission which was appointed in the early nineteenth century, to plan ahead for the street system for upper Manhattan Island, apologized for predicting that within two hundred years there would be need for highways along the banks of the Harlem River!

In the archives of the city of Philadelphia there is a report of the Commission of City Councils which, in 1848, completed the Fairmount Pumping Station and Dam. In this official

report attention was called to the fact that at that time Philadelphia enjoyed the second largest municipal pumping plant in the world, and that in the judgment of the Commission the water question was settled for the next two hundred years. Now, less than one hundred years later, the pumping station has been abandoned, the Fairmount Dam has been destroyed, and is the present site of the new Art Gallery. Instead of 5,219,505 gallons of water per day, the city is at this time using nearly 400,000,000 gallons, and is seriously concerned about its future requirements.

Innumerable examples could be cited to show that the scale of our planning for the future must always be far beyond that which would adequately serve at the moment.

### MUTUAL INTERESTS OF PRIVATE OWNERS AND GOVERNMENT

Perhaps no one has yet evolved the ideal scheme for public guidance in land utilization, but it is clear that the ultimate scheme must involve means for the mature determination of what should be done in the mutual interests of many groups and localities, and that opportunities must be given for incorporating the views of private owners as well as of government officials. We must not forget the contract relationship which mutualizes the interests of these private owners with those of the government.

The effort which is being made in the Philadelphia Tri-State District definitely attempts to develop and to practice just such an American scheme.

It is imperative that some representative and expertly advised authority determine as far in advance as possible just what areas are to be developed for industrial purposes, business, residence, recreation, and other uses. The problem is being approached more or less



experimentally in different municipalities in the United States, but the necessity for solving it is recognized throughout the country.

The following metropolitan centers have convinced themselves of the desirability of extending their plans into the regions suburban and adjacent to the great central cities: San Francisco; Los Angeles; Minneapolis and St. Paul; St. Louis; Pittsburgh; Buffalo and the Niagara frontier; New York and its environs; Boston; Hartford and the Connecticut Valley; and the Philadelphia Tri-State District.

The sponsorship for these plans is assumed by official governmental agencies, by public benefactors, or by mobilized civic and business agencies.

In the Philadelphia region, with which the writer is most familiar, the situation is somewhat complicated by the fact that within easy commuting distance of the Philadelphia-Camden center of population there are more than three hundred and sixty governing agencies scattered over a four thousand square mile area, comprising portions of the states of Pennsylvania, New Jersey, and Delaware, and lying within twelve counties.

#### REGIONAL PLANNING

The perception of the desirability of a comprehensive Regional Plan for the Philadelphia Tri-State District dates back to 1923 when a small group of citizens first considered the subject. This resulted in the organization of a Regional Planning Committee. Subsequently there was appointed a Technical Advisory Committee, consisting of the outstanding engineers, architects, and engineering officials of the region. Subcommittees were appointed to deal with such typical problems as highways, parks, public reservations, and so forth. These committees met from time to time with a small technical

staff employed by the Regional Planning Committee. The funds for salaries and expenses were paid out of contributions and dues received from a limited membership.

In the meantime, an organized effort was under way to sound the business and civic interests of the region to see how seriously they felt a comprehensive regional plan was needed. The response was most gratifying. All of the forward-looking business men and citizens felt that it was essential. It was then determined that to plan comprehensively for the region a fund of at least five hundred thousand dollars would be required for a three-year period. Leading citizens, business, and civic organizations cooperated in the fund-raising campaign early in 1928, with the result that more than five hundred and twenty-five thousand dollars was obtained.

The Regional Planning Committee had been studying the policy pursued in planning other regional areas in this country and abroad. It had been previously recognized that the planning in this region could be accomplished only through a non-official agency. Two outstanding examples of regional planning through non-official agencies had at this time been in operation for several years—the Regional Plan of New York and Its Environs, which was supported by the Russell Sage Foundation, and the Regional Plan of Chicago, which was supported by memberships and subscriptions received from business men, citizens, and official agencies. The policy adopted in New York was to gather all the necessary data and to have the plan made by professional planners, and, after it was completed, present it to the region, urging its adoption. The Chicago policy was quite the reverse, as the organization there promotes planning through contacts with public officials.

In the early days of the Philadelphia regional planning organization, it was felt that unless the plan were the plan of the people and the officials of the region there was little likelihood of its being used. It seemed advisable to steer a middle course between those of New York and Chicago. This policy was finally adopted by a committee which was incorporated as the Regional Planning Federation of the Philadelphia Tri-State District. Briefly, this program consists of the construction of a preliminary plan, prepared by professional planners, employees of the Federation, and consultants, in collaboration, in a general way, with the Technical Advisory Committee. After this tentative plan is prepared, the policy is that it shall be discussed with all the engineering officials of the region and intensively studied by the Technical Advisory Committee and the engineering officials before it is made public. It is felt that in this way the plan finally adopted by the Technical Advisory Committee will be the plan of the people and the engineering officials of the region, and that its eventual adoption and execution will be assured.

It is believed to be the first time that this policy has ever been pursued in regional planning, and it is known throughout the country as the Philadelphia Tri-State idea. The present indications are that a similar policy will be carried out in a number of other regions which are now considering it.

The people of the Philadelphia region feel that regional planning, based upon intercommunal cooperation, is simply a vehicle to improve the convenience, the happiness, and the prosperity of present and future generations. It is seeking to better social and economic conditions so that the Tri-State District, of which Philadelphia is the hub, will be a more cheerful

and effective place in which to live, work, and play.

#### PHASES OF THE PHILADELPHIA PLAN

The Philadelphia Regional Plan, to be completed early in 1931, will consist of seven closely interrelated phases as follows:

(1) *A Suggested System of Major and Secondary Highways, Boulevards, Parkways, and Bridges.* A comprehensive, coordinated system of major and secondary highways, boulevards, and parkways will alike benefit industrial, business, and residential sections. Like the railroads, these highways are absolutely essential from a transportation standpoint, not only for business purposes, but for all kinds of recreation. They will form the back-bone of the Regional Plan.

(2) *A Suggested System of Parks, Other Public Reservations, and Connecting Parkways.* An adequate system of parks, parkways, and public reservations not only will be a great benefit to the people now living in the region and to the future generations, but is bound to have a very beneficial effect upon the health of both present and future generations. Such open areas are the lungs, or breathing spaces, of the region.

(3) *A Study of Railway Passenger and Freight Transportation Facilities.* Railway passenger and freight transportation facilities are necessary for regional accessibility. Any improvement which can be suggested in these facilities will affect everyone in the region, and naturally will further the improvement of industrial, business, and living conditions.

(4) *A Study of Waterways and Ports.* A study of waterways and ports is, as we all know, very much needed. This phase of the Regional Plan will show existing facilities, suggested improvements, and proposed expansion of

the ports. The attention which will be focused upon this problem will undoubtedly hasten comprehensive development of our port facilities. This, in turn, will be reflected in the prosperity of the whole region.

(5) *A Study of Sanitation, Drainage, and Water Supply Facilities.* This study will consist of a discussion and a graphic presentation of existing conditions. It will show the future water supply which will be required to meet the needs of the constantly increasing population of the region. It will emphasize the necessity of protecting the future water supplies from objectionable pollution from sewage, industrial waste, and other sources, and likewise, of freeing as speedily as possible the present sources of supply from objectionable pollution.

It will give information concerning the different drainage areas, from which studies can be made to determine the most advantageous solution of the sewage disposal problem for the different communities in the respective drainage areas which have not already solved this problem.

(6) *A Suggested System of Airways and Landing Fields.* A coordinated system of regional airports and landing fields is an essential part of modern transportation. This subject will be comprehensively treated under the guidance of the leading aeronautical experts of the country. It will be graphically presented, indicating suggested locations for airways and landing fields and the reasons for them.

(7) *An Indication of the Probable Distribution of Population.* These studies indicate that the number of persons living in the region will increase from an estimated population of more than 3,500,000, in 1930, to about 5,700,000, in 1970. It is obvious that if the region is to be a desirable place in which to live in 1970, liberal provisions must

be made for all the facilities just discussed, essential as they are to the continuous improvement of the social and economic living conditions of present and future generations.

#### GROWTH AND SPREAD OF REGIONAL PLANNING

Fortunately for the future of American cities, city and regional planning have taken their proper places in the minds of most of our forward-looking citizens. Fortunately, also, under the leadership of Mr. Hoover, the Department of Commerce has sponsored standardized legislation for the guidance of various municipalities and state legislatures.

The Philadelphia Regional Plan articulates with the New York Plan at points of contact, and all over the country city and regional plans are being initiated. Even discounting the natural enthusiasm resulting from first-hand contact with this plan of coöperation, it seems safe to predict that its use will spread, and that the same principles will be found to apply not only to other localities, but to the larger areas and the political jurisdictions. For example, groups of regions such as the Atlantic Seaboard states, the Pacific Coast states, and so forth, and ultimately nations, will find it desirable to provide similar machinery for the coöperative working out of their interdependent destinies.

The principles upon which to develop a national plan and the human machinery of coöperative, constructive effort are being evolved from practical experience on a smaller scale, and the information resulting from the sum total of local plans will greatly advance the solution of such national problems as flood control, national parks and forests, express highways, and conservation of natural resources in relation to population trends.

It is the writer's personal hope that the Pan-American Union will, in due course, become a great continental planning board, dedicated to the development of continental prosperity, employing a permanent engineering staff, and organized to encourage maximum participation by all American nations, large and small.

There is a large and rapidly growing literature available on the subject of planning. Organized efforts are being

made to formulate the best experience to date and to create the most expeditious means of causing the adoption and the execution of appropriate and timely recommendations which are properly related to the orderly development of communities. The entire subject has passed out of the stage of discussion and controversy, and is taking its place as one of the most significant movements of our modern social and economic life.

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## The Surplus Farm Lands

By BERNHARD OSTROLENK

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THE closing of the World War brought forth a captivating bit of public discussion on the probability of food shortage. The ancient fear of hunger for the race again haunted men. Food and population became topics for popular discussion and population increases of every hue and shade began to menace standing-room on earth, according to the new Malthusians.

It is not certain that the demonstrated surplus production which has characterized agriculture for the past eight years has in any way allayed the fears of the theorists. For practical purposes, we are producing more wheat, more corn, and more cotton than can be consumed. In fact, the agricultural surplus has become a burden and has been the central theme of political discussion in all recent political campaigns. It is curious that discussion of a food shortage should occur at a time when it is obvious that the country is flooded with food beyond its ability to consume and beyond the effective demand of importing countries. It was exactly a century ago when Malthus first presented his famous dictum that population is increasing faster than food. In a sense, the first presentation of the theory, now known as the Malthusian theory, came during a post-war period. Europe was still suffering from the aftermath of the Napoleonic wars. The high-gearred production during a war, when agriculture is stimulated and a market is readily found for the farmers' products, seldom brings forth discussion of over-

population and food shortage. It is after the war, when the surplus mounts and unemployment depresses purchasing power, that the fear begins to haunt men that there may be too many people in this world. It is then that immigration laws are placed on statute books and it is recalled that in the confused causes of war no insignificant part was played by the chatter of a monarch who wanted "a place in the sun." It does not now seem so idle and boastful. Surplus goods are somehow confused with surplus population, and in the midst of unparalleled agricultural production and consequent surplus there comes this curious fear of a food famine, and there emanates from secluded studies of professors, as well as from halls of the legislatures, treatises and orations lauding the farmer and urging the extension of the agricultural-producing machinery.

### WHAT CONSTITUTES A SURPLUS?

The subject of the surplus lands, therefore, is not an idle discussion. To be sure, there are varieties of opinions as to what constitutes a surplus in production and, hence, a surplus in lands. There is one school of thought which discusses the surplus with a wave of the hand, or behind a gentle deprecatory cough. One is told that there is no surplus, since all the food is ultimately consumed. Another school of thought maintains that there ought to be no surplus because many people go without food, and it is only a matter of distribution. Or, again, one may be told that if there is a surplus now there soon will be none, because cities



are growing and the number of producers is diminishing.

Obviously, this is all plain quibbling. Corn may be grown in such quantities and produce such a surplus that it becomes cheap enough to be used for fuel. Thus, it is ultimately fully consumed. Wheat or potatoes may be so plentiful and so cheap as to be used for hog feed. Again, the crop is ultimately used up, but it competes with products lower down in the scale. Feed for hogs becomes fuel, and food for man becomes feed for hogs. It is neither efficient nor profitable to grow corn as fuel or potatoes as hog feed. The farmer must look upon such production as a surplus.

As for those who argue that it is merely a matter of finding the needy, it may as well be argued that better distribution will eliminate any possible surplus in automobiles. Since there are many people who would like to own automobiles and do not have them, the point of satiety is far distant. Moreover, many people may want two cars after they have the first—and possibly a third. The ceremony of paying for the automobile is the only obstacle. If a way could be devised for giving pedestrians automobiles and the manufacturer a reasonable price, the better distribution idea would be sound. In the same way, if the hungry could secure the wheat and the farmer be paid for it, better distribution might solve the problem of the surplus.

After the war, there were millions of people starving in Russia while wheat was a glut on the American market. The problem was to pay the American farmer for his wheat and bring it to the Russians. The farmer could not afford to give his wheat away, and the Russians had no money to pay for it. The organization of the American Relief Association solved

this particular problem. Money was raised from charitably inclined Americans with which the wheat was purchased and given to the hungry.

Looked at practically, the economist recognizes the existence of a surplus when the product cannot be sold at a price to cover the cost of production, and it is this principle that must guide us in discussing a theoretical problem such as is presented in this paper—the surplus of farm lands in the United States.

It may not be amiss to sketch briefly at this time the picture of agricultural land resources in the United States which, in a sense, are surplus farm lands, but are not as yet in cultivation. The total area of the United States is given as 1,903,000,000 acres, of which only 365,000,000 acres are at present being used for harvest crops. The remainder is partly used for pasture, forests, and cities, and is partly waste land. How this unused acreage can be made to serve the purposes of greater crop production is at best problematical. Obviously, the best land, that is, the best land from the economic standpoint, is probably today under cultivation. Additional land will be put under cultivation only at additional cost and at the expense of land now in forest and pasture. There is considerable waste in both; hence, the depletion of either forest or pasture land is not a serious item, especially since land that will be put under cultivation must have certain topographical requirements, thus leaving much mountainous and arid land that may still be used for forest and grazing. The extreme area of waste land which may be used for crop development is about 973,000,000 acres, an area almost three times the present crop area, leaving 262,000,000 acres for forest and 468,000,000 acres for grazing.

The present 365,000,000 acres, therefore, can be augmented by a potential area eight times the crop area of Germany. There may be limitations to the use of this land. In the North, the season is shorter and the number of days between plowing and first frost is smaller, thus limiting the kind of crop that can be grown there. Yet, by the development of rapidly maturing varieties of grain this growing belt has been successfully invaded. The corn belt at one time had its northern limits in the south of Minnesota, but has now almost reached the central part of that State, and flint corn is grown in Canada. The average yield of corn in North Dakota is 26.5 bushels an acre, or only one bushel less than the average for the United States. The corn area of North Dakota has doubled in the past eight years.

As one travels west, one comes in contact with regions having less and less rainfall, the arid and semi-arid regions. Dry farming and the introduction of drought-resisting varieties have done much to bring these regions under cultivation. In the past, this land was settled not because of an economic need, but in response to a general orgy of land development. The full extent of crop production under economic pressure has not as yet been felt here. It is reasonable to assume that the land is capable of considerable productivity.

There is also much land that will need special soil treatment for cropping. It may be acid, infertile, or may need humus. These conditions do not preclude the use of this land for crop production. In fact, it may be ideal for selected crops when properly treated.

Much of the fertile land is today in cut-over or forest land, and will require clearing; other land may need drainage, and some having satisfactory

conditions for fruits and vegetables may require irrigation.

Economic factors, that is, the price of agricultural products, the cost of bringing these products to market, and the importance of agricultural exports, will have their effect on the probable extent to which this land will be utilized in the future. At the present time it may be put down as a vast reservoir of surplus land, potentially capable of supporting a greatly increased population.

#### SUBMARGINAL LAND

As a matter of fact, the surplus land is not confined to the unused land, but in accordance with our definition (the product must be sold at a price to cover costs of production—land commonly called submarginal) we may regard a considerable proportion of the land now in cultivation as surplus land. In fact, practical farmers so recognize it. Between 1910 and 1920, twenty-four million acres were added to the improved area, but forty-eight million acres were added to the crop area. The improved area is the area now in farms. The crop area is that portion of the farm land used for crop production. The figures indicate, therefore, that twenty-four million acres more were put into crop area than were added to the farm lands. It means that much of the farm land which is today in pasture or forest, but included in farms, can be used for crop production, and at least twenty-four million acres of such land were changed from one to the other use in ten years. The census reports one hundred million acres of such land—land which is already in farms, but not cropped. A considerable proportion of this one hundred million acres may safely be considered surplus farm land.

Practical farmers also consider a large portion of their crop land as sur-

TABLE I

<i>a</i>	Five-year Average Yield <sup>1</sup> <i>b</i>	Five-year Average Acreage <sup>1</sup> <i>c</i>	Acreage under Efficient Production <sup>2</sup> <i>d</i>	Wasteful Acreage <sup>3</sup> <i>e</i>	Remarks <i>f</i>
Wheat <sup>4</sup> .....	804,151,000 bushels	58,092,000	34,219,000	23,873,000	Unit of efficient production is 23.5 bushels. A crop average of several European countries, including semi-arid land
Rye <sup>5</sup> .....	68,007,000 bushels	4,899,000	2,180,700	2,718,300	Same as above, 26.5 bushels
Corn <sup>6</sup> .....	2,850,904,000 bushels	106,626,000	71,025,000	31,601,000	40 bushels as standard efficiency
Oats <sup>7</sup> .....	1,318,021,000 bushels	42,850,000	27,998,000	14,852,000	47.4 bushels. European average secured, the same as wheat
Barley <sup>8</sup> .....	186,567,000 bushels	7,516,000	5,389,000	2,127,000	34.7 bushels. European average secured, same as wheat
Potatoes <sup>9</sup> ....	395,242,000 bushels	3,697,000	1,976,000	1,721,000	200 bushels as average
Cotton <sup>10</sup> ....	11,516,000 bales	37,616,000	28,790,000	8,826,000	200 pounds as average
Hay <sup>11</sup> .....	90,159,000 tons	59,835,000	45,079,500	14,755,500	2-ton average
Total <sup>12</sup> .....	.....	317,131,000	216,657,200	100,473,600 or 31.5 per cent of the total acreage used	

<sup>1</sup> Figures taken from *U. S. Dept. Agr. Year Book*, 1926.

<sup>2</sup> Totals in this column have been secured by dividing the corresponding figure in column *b* by the unit of production given in column *f*.

<sup>3</sup> Totals in this column have been secured by subtracting the figure in column *d* from the corresponding figure in column *c*.

<sup>4</sup> *U. S. Dept. Agr. Year Book*, p. 803.

<sup>5</sup> *Ibid.*, p. 825.

<sup>6</sup> *Ibid.*, p. 834.

<sup>7</sup> *Ibid.*, p. 848.

<sup>8</sup> *Ibid.*, p. 860.

<sup>9</sup> *Ibid.*, p. 932.

<sup>10</sup> *Ibid.*, p. 952.

<sup>11</sup> *Ibid.*, p. 981.

<sup>12</sup> Total crop area in the U. S. in 1926, 356,749,390 acres (*Year Book*, 1927, p. 1203); total crop area in the U. S. under efficient production, 244,203,333; superfluous acreage, 112,546,057.

plus land. By 1924, the crop area had again fallen nineteen million acres, which were permitted to return to pasture, and it may be parenthetically pointed out here that the decreased acreage in 1924 yielded a larger volume of products than the larger acreage in 1920. In 1924, thirty-four million acres of the cropping area were permitted to remain fallow, and thirteen million acres more were planted, but were not harvested. Thus, we have here a further amount of forty-seven million acres that were considered by the farmers themselves as surplus farm land. Adding to that the decreased area of nineteen million acres, we have, in 1924, sixty-six million acres of surplus crop area so recognized by practical farmers. This constitutes nearly one-fifth of the area in crops today, or almost one-half of the crop area of Germany. It may again be pointed out that the abandonment of one-fifth of the area resulted in no decrease in crop production.

From this point on, an estimate of the surplus farm land becomes highly theoretical. It would be necessary to estimate at what point the average yield per acre is too low to be profitable at present prices. The average yield of wheat in the United States is around thirteen bushels per acre, many regions having yields of from five to ten bushels. When the yield is six bushels or less, the average cost is \$2.82 a bushel; when the yield is between seven and twelve bushels an acre, the cost is \$1.47. The average farm price of wheat in 1928 was \$.972; in 1927, \$1.112; and in 1926, \$1.198. In 1928, the following states averaged less than twelve bushels per acre, the yield at which wheat, even with a large margin, was produced at a

loss: Nebraska, North Carolina, Georgia, Kentucky, Tennessee, Alabama, Arkansas, Texas, and New Mexico. By more accurate computation it can be shown that other states whose average production was below cost may be added to the list.

It may be asked how farmers can afford to produce wheat year after year at a cost of \$1.47 and sell it for \$.97. The answer is, that the cost figure is theoretical and assumes a certain fair wage for the farmer's labor and interest on his money invested. He receives neither the wage nor the interest.

Similar illustrations may be given to show that there is surplus land used for cotton production, for corn, and other grains—in fact, for all agricultural production.

It would be futile to establish any set rule to indicate at what point arable land enters the surplus category. The average yield of corn in the United States is about thirty-five bushels per acre, but yields of one hundred bushels are quite common, and even one hundred and twenty bushels per acre have been secured. Ordinary farm land, with skilled farming, can average from eighty to ninety bushels per acre, year in and year out. Figured on a theoretical basis, then, it is quite obvious that at least one-third of the corn land may be regarded as unprofitable productive land at present prices, and therefore surplus lands. In Table I, I have taken a more practical standard of efficient production and have estimated the surplus area in cultivation, should present total production be maintained under more efficient farming. For the eight crops under consideration, 31.5 per cent of the acreage is surplus farm land.

# Tenancy Versus Ownership as a Problem in the Utilization of Farm Real Estate

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WHAT is known about farm ownership and tenancy in the United States, particularly from the standpoint of their influence on methods of utilization, may appear considerable, quantitatively speaking; but from the standpoint of actual understanding, our knowledge does not assay a very high percentage of pure gold. We have a large volume of general statistics covering certain subjects by states and a smaller number of subjects by counties; but general statistics by large geographic units lead us but a little way into the understanding of the complex of human relationships, local customs, geographic variations in form and conditions of tenure, and the interaction of the form of tenure and the physical environment. We have the advantage of a number of intensive surveys in particular areas, but in reality they are discouragingly few and scattered.

Finally, there has been a good deal of dogmatism; some of it by reasoning from analogies in other countries, some representing useful *a priori* analysis in the formulation of working hypotheses, and some growing out of fallacious conclusions derived from more or less inadequate statistics. In the present article one can attempt little more than to present some of these wares as illustrations of the inadequacy of our present comprehension of tenure problems.

## TYPES OF TENANT AND OWNER FARMS

A casual study of the geography and the statistics of tenancy and operating

ownership reveals a tendency to confine each form of tenure to the operation of certain classes of real estate.

In the first place, a farm cannot be rented if it is incapable of supporting a tenant family in addition to paying rent to the landlord. For this and other reasons the poorer lands and small, uneconomic farm units throughout Appalachia, the Ozarks, and the less fertile parts of the South Atlantic and Gulf coastal plain, the northern cut-over areas of the Great Lakes states, and elsewhere, are operated mainly by owners.

In the South particularly, and to some extent in other parts of the country, there is a distinct tendency for tenants to operate mainly crop land, while land owners retain for direct operation the woodland and pasture, with, in some cases, a modicum of crop land. Frequently this is merely a double form of economic organization on a single plantation, operated under unified direction; in other words, a twofold system of organization within a single economic unit.

This tendency is indicated for the United States as a whole and its principal subdivisions in Table I. In every group the percentage of the average farm acreage in harvested crops, according to the census of 1924, was higher for tenant farms than for farms operated by owners. Moreover, although the average size of farms was greater for owner farms in all the subdivisions except the nine Northeastern states and the twelve North Central states, the average acreage of harvested crops per



TABLE I—AVERAGE ACRES PER FARM, AND AMOUNTS AND PERCENTAGES IN HARVESTED CROPS, PASTURE, AND OTHER USES, CLASSIFIED BY TENANT FARMS AND OWNER FARMS, UNITED STATES AND PRINCIPAL SUBDIVISIONS, 1924

	Average Acreages						Percentage Distribution of Land in the Average Farm					
	Entire Farm		Crops Harvested		Pasture		Other Land		Crops Harvested		Pasture	
	Tenant	Owner	Tenant	Owner	Tenant	Owner	Tenant	Owner	Tenant	Owner	Tenant	Owner
United States (48 states) .....	107.6	168.7	56.8	52.4	33.6	83.2	17.2	33.1	52.8	31.1	31.2	49.3
Northeastern Division (9 states) ..	107.1	90.0	51.0	34.0	33.8	32.9	22.3	23.1	47.6	37.7	31.6	36.6
North Central Division (12 states) ..	179.4	160.9	108.7	78.1	51.0	61.9	19.7	20.9	60.6	48.5	28.4	38.5
Mountain and Pacific Division (11 states) .....	320.0	384.8	87.3	57.1	173.3	278.2	59.4	49.5	27.3	14.8	54.2	72.3
Southeastern Division (12 states) ..	47.5	100.3	24.1	24.1	7.7	29.6	15.7	46.6	50.8	24.0	16.2	29.5
West South Central (4 states) .....	91.8	204.3	47.3	55.1	34.7	173.2	9.8	36.0	51.5	20.8	37.9	65.6

farm was higher for tenant farms than for owner farms in every principal subdivision except the twelve Southeastern states, where it was the same for both classes, and in the four South Central states, where the area of crop land was larger on owner-operated farms.

The greater proportion of the average acreage in crops on tenant farms than on farms operated by owners is probably largely accountable for the fact that in 1924, in forty-three of the forty-eight states, the average value per acre of farm land, exclusive of buildings, was higher for tenant farms than for owner-operated farms. The exceptions were Rhode Island, New Jersey, and Maryland, where the higher average for owner-operated farms is probably attributable to large numbers of truck farms and suburban farm homes, almost exclusively operated by owners; California and Florida, where the influence of truck farms and fruit farms having a high value per acre and rarely operated by tenants is apparent; and the State of Washington, where somewhat similar causal factors are perhaps influential, although in less degree.

#### VALUE OF BUILDINGS

In the matter of value of buildings, owner farms for the United States as a whole far exceed tenant farms, but this is by no means the case in all parts of the country. In the South, of course, the cheap type of dwellings and the small provision for barns on tenant farms makes for average values of buildings far below those of owner farms, but in the Middle Atlantic and East North Central groups the average value of buildings on tenant farms considerably exceeds the average for owner farms; the two groups are nearly the same in New England; and the average for tenant farms is only about twelve per cent less than the average for

owner farms in the Mountain states and about eighteen per cent less in the Pacific and the West North Central group.

The above discussion has already suggested that distinct contrasts are apparent in the types of farming, and consequently in the types of farm real estate, operated by the two major tenure groups, a fact long recognized. No census classification of farms by type of farming has been made since 1899, when percentages of the number of farms of various types operated by tenants were reported as follows:

TABLE II—PERCENTAGE OF TENANCY ON FARMS BY PRINCIPAL SOURCE OF INCOME, 1899

All farms.....	35.3
<i>Farms by principal source of income</i>	
Hay and grain.....	39.8
Vegetables.....	30.4
Fruits.....	16.5
Livestock.....	20.3
Dairy products.....	23.3
Tobacco.....	47.9
Cotton.....	67.7
Rice.....	45.7
Sugar.....	35.1
Flowers and plants.....	14.7
Nursery products.....	12.7
Miscellaneous.....	24.9

#### PERCENTAGE OF TENANT-OPERATED FARMS

It is apparent that the percentage of each class of farms operated by tenants was higher than the percentage of farms for all classes in the case of cotton, tobacco, rice, and hay and grain farms. It was approximately the same for sugar farms. To a large extent, these are one-crop systems—that is, practically all of the farm income is derived from a single commercial crop. This is somewhat less true of the group classified as hay and grain farms, but even this group comprises a large number of tenant farms in the Great Plains devoted mainly to the production of wheat and flax for market, and numerous tenant farms in the

Corn Belt operated largely for the production of corn for sale with only incidental production of livestock. Types of farms predominantly operated by owners include nurseries, flower farms, fruit and truck farms, general livestock, and dairy farms.

Although no census data on types of farms are available since 1900, a tabulation of the farms reporting certain crops, by tenure, made in the 1924 census, confirms roughly for certain cases the indications of the 1900 tabulation with respect to cotton, tobacco, and corn for grain (Table III). The percentage for velvet beans is high because they are grown mainly in a region characterized as a whole by a high percentage of tenancy. When comparisons are made within the region, it is found that this crop, which is a rough index of an escape from traditional methods of farming, is grown on a much larger proportion of the farms operated by owners than on those operated by tenants. Allowance should be made for the fact that, whereas the types shown in Table II are determined on the basis of the principal source of cash income, Table III includes all farms reporting the harvesting of the crop, whether for sale or for home consumption.

TABLE III—PERCENTAGE OF TENANCY ON FARMS REPORTING CERTAIN CROPS HARVESTED

All farms.....	38.6
Corn for grain.....	43.8
Corn for silage.....	21.3
Winter wheat.....	31.8
Spring wheat.....	29.3
Oats for grain.....	32.3
White potatoes.....	25.7
Sweet potatoes or yams.....	38.2
Cotton.....	65.4
Tobacco.....	44.2
Flax seed.....	34.2
Velvet beans.....	47.4
Sugar beets for sugar.....	31.2
Oats cut and fed unthreshed.....	29.0

The conditions accountable for these relationships between type of farming

and form of tenure are complex, and are not fully understood. The predominance of tenancy in certain types of specialized farming might suggest that such types are best adapted to operation by tenants. This conclusion should be received with caution. Fruit farms, which are generally highly specialized, are predominantly owner-operated. Evidently, if specialization is favorable to tenancy, other considerations in the case of fruit farming offset the advantage. The predominance of tenant farming in the production of cotton and tobacco, moreover, is also not susceptible of so obvious an explanation.

Cotton and tobacco happen to be produced mainly in areas where a large percentage of tenancy is inevitable as a result of the complex of social and economic conditions growing out of slavery, the plantation system, and their concomitant, the poor white class. Tobacco is produced to some extent outside of the territory formerly dominated by the plantation system. In Connecticut only eight per cent of the product in 1924 was grown by tenants, and in Wisconsin thirty-four per cent; while the percentages for the Southern states are: 60 for North Carolina, 59 for South Carolina, 49 for Kentucky, and 43 for Virginia. Pennsylvania, on the other hand, although outside the plantation area, has a percentage of 51.

#### CROP PRODUCTION FAVORABLE TO TENANCY

Most probably the predominance of crop production is favorable to tenancy, other things being equal, because a relatively small amount of capital is required, such as workstock and implements, which can be supplied by the tenant; or, if furnished by the landlord, as under the cropper system, may be operated under the landlord's close supervision. Methods of technique

affecting the landlord's return can be more or less standardized, and his return is affected comparatively little by the effectualness of the tenant's judgment in business matters. The division of return comes only at harvest time, so the landlord does not have to be continually on hand to make sure that he is receiving his proper share. Where a single commercial crop predominates, the contract between landlord and tenant is not complicated by the necessity of arriving at an agreement with respect to the division of acreage between alternative crops.

Types of farming characterized by a small proportion of tenancy have somewhat opposite characteristics. In poultry farming or in fruit growing, for instance, the sharing of returns would place the landlord in the position of being dependent for his income on the effectiveness of the tenant's technical management and the wisdom of his marketing policies. In dairying the returns are coming in daily or weekly, and unless the landlord is continually present he is not in a position to know how honestly his share is allotted. Moreover, if he contributes to the capital investment in the form of ownership or part ownership of the herd, he has committed himself to an investment, the value of which may be seriously impaired by neglect or mismanagement.

#### CASH LEASES

The point might be raised that the difficulties of the landlord-tenant relationship in such types of farming may be largely obviated under cash leases. This is true in a measure, but cash leasing is a comparatively minor form of tenancy in this country. In 1924, farms operated by cash tenants constituted only sixteen per cent of the total number of tenant farms, having declined notably since 1920; and, what

is more significant, included less than fourteen per cent of the total land in harvested crops on tenant farms.

Our tenants as a class do not command sufficient means to provide alone the capital requirements of dairy farms and general stock farms, nor is the undertaking of such investments by the tenant encouraged by the short-term leases which predominate in this country. Fruit farms, in particular, require too long a period before trees come into bearing to justify tenants in setting out trees, and landlords are naturally loath to lease developed fruit farms to tenants and to run the risk of losing their orchards by neglect. Many landlords are unable or are loath to provide the specialized buildings and fixtures requisite for rented farms devoted to dairying and poultry raising.

In spite of the difficulties, however, in tenant operation of these types of farms, there are many interesting examples of individuals who have found it possible to make adjustments in the financial and personal relations between landlord and tenant necessary to overcome such obstacles. One of the most notable classes of adjustment is that involved in the various forms of the so-called stock-share lease, which has been widely employed for rented farms devoted to dairying and stock raising.

#### RELATION OF TENURE TO EFFICIENCY

No subject is involved in more confusion than the bearing of form of tenure on efficiency in land utilization. Many have assumed, sometimes on the basis of local observations, that tenant farming is necessarily inefficient as compared to owner farming. It has long been held that theoretically it is to the interest of a share tenant to farm less intensively than would be advantageous for owner operators or for cash tenants.

The conclusion that tenants are less efficient than owners in current production is subject to many qualifications. Efficiency is affected by many conditions besides the mere distinction between operation by tenants or by owners. For one thing, it is primarily a resultant of personal aptitudes. An ignorant and unenterprising class of people may be inefficient either as owners or as tenants. If owners as a class in any locality are more intelligent and alert than the class of tenants, these qualities are attributable only in minor degree to form of tenure. Rather, the fact that men have become owners may reflect the efficiency and the thrift which have enabled them to climb out of the tenant class, except perhaps in areas where conditions make it more desirable to operate as a tenant than as an owner.

It has long been true in Southern plantation areas that an ignorant class of tenants under the close supervision of capable landlords have proved more efficient than the same class when working as owners without supervision. In many Northern states the close association of landlords and tenants—particularly the large class related by blood or by marriage, amounting to nearly three-tenths of all share tenants—goes far toward offsetting whatever disabilities may characterize the tenant class in personal efficiency or in capital.

Comparative statistics of efficiency in production, as measured by production per acre, are available in the census for certain decades and in a few surveys. Thus, the census of 1924 shows that, in fifteen states important for winter wheat, tenants obtained the highest average yields in six states, while in three others the averages were about the same. For nine spring wheat states, tenants had the highest yields in four states, while in one state yields for both classes were approximately the same.



In twenty-three important corn-producing states, tenants exceeded in only three states. Tenants were ahead in average yields of oats in four states out of eighteen, while in one state yields were about equal. In fifteen cotton-producing states, tenants had the highest yields in four, but one of these, New Mexico, is of relatively small importance in cotton production. In the production of tobacco, tenants obtained the highest yields in three states out of twelve, one of these being the important producing state of Kentucky.

For the United States as a whole, tenants obtained slightly higher average yields of winter wheat and of oats than did owners, but the latter class obtained higher yields for corn, cotton, spring wheat, and tobacco. All in all, however, the average differences in yields obtained were not large, amounting to two-tenths of a bushel for winter wheat, three-tenths for spring wheat, one-tenth for oats, one and one-tenth for corn, four pounds of cotton, and forty-nine pounds of tobacco. Average differences so small in extent are obviously not very conclusive. Even the maximum differences for individual states do not range very high.

Yields per acre, of course, are only one measure of efficiency. Moreover, the contrasts in yields reflect not only whatever effect the form of tenure may exert, but also the influence of differences in the kinds of land worked, adequacy of equipment available, and the personal qualities of the classes of people who, in the processes of economic and social selection, enter the respective tenure groups.

#### INFLUENCE OF TENURE ON CARE OF PROPERTY

Over and above the relationship of form of tenure to current production, it is generally held that tenancy makes for inefficiency because tenants under

short or indeterminate leases have little interest in conservation of soil and timber resources and in upkeep of buildings and improvements. This conclusion, which rests largely on observation rather than on statistical confirmation, is subject to the qualification that owner operators as a class may be characterized by a similar attitude, particularly when land is abundant and cheap. Our economic history has amply demonstrated the fact that owners will exploit the soil as readily as will tenants under such conditions, and even after land comes to have a considerable value the earlier acquired habits of wastage persist.

High rents and high land values, though creating a motive for owners to care for the upkeep of their property, do not influence the tenant in that way if there is a prospect of the early termination of his lease. Early in the colonial period, for instance, the Lords Baltimore found that even tenants for long terms were inclined to be guilty of wastage during the last years of the lease.

In European countries various modifications in the form of tenancy have grown up which have been aimed at creating an interest in the upkeep of the property. These have assumed the various forms of double ownership ranging from emphyteusis, at one extreme, to short-term leaseholds involving ownership of improvements by tenants subject to compensation on termination of the lease.

In America we have thus far largely avoided the complications and the inevitable necessity of intensive administrative and judicial regulation involved in the various types of double ownership, including the so-called tenant right. Long leases were being rapidly abandoned before the beginning of the nineteenth century, and short leases are now nearly universal. Nowhere in the



United States has the right of compensation for improvements been given statutory recognition.

The attitude of a large proportion of our landlords toward their property has been essentially transitory, involving more concern with speculative sale than with the maintenance of soil fertility. Other groups of landlords are so intimately associated with their tenants by relationship, or with their properties through nearby residence and close personal supervision, that they are in a position to stimulate conservative methods of utilization. The problem of effecting improvements in the form of structures has been taken care of, in a measure, either at the land-

lord's expense—sometimes under agreement for extra rent or other form of reimbursement—or at the tenant's expense, under agreements for compensation at the expiration of the lease.

There are not lacking indications, however, that we may be forced to adopt a less free and easy system of tenure. The rapid progress of soil exhaustion, the greater scarcity of good land, and the increasing requirements for specialized improvements adapted to the technical needs of modern agriculture are likely to give increasing emphasis to types of adjustment such as have been found necessary in some of the countries of western Europe.

# The Overhead Costs of Farm Real Estate Ownership

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THE overhead costs of farm real estate ownership do not differ essentially from the overhead costs of any other real estate ownership, but there are special features in connection with farm real estate that deserve to be isolated for separate discussion. Overhead costs in farm real estate include interest, taxes, insurance, depreciation, and management. The special features of these items, as they relate to farm ownership, will be discussed later. It should be noted here, however, that although farm real estate ownership in this discussion is to be divorced from farming, we cannot logically divorce the items that make up the overhead costs from the income of the farmer. Whether the overhead ownership is to be considered from the standpoint of one individual farm owner or of a corporation with a large number of farms, the overhead costs will have direct relation to the farming operations and to farm profits.

In fact, the subject has become important because corporation farming has been thrust upon banks, insurance companies, and finance corporations that have in recent years made a practice of loaning mortgages to farmers. According to the Federal Farm Board, the number of foreclosed mortgages held by the Federal Farm Loan Bank system in 1929 involves 2,652 farms, valued at 19.6 million dollars. The Joint Stock Land Banks, in addition, have 2,626 farms, because of foreclosed mortgages, valued at 31.6 million dollars. The life insurance companies had investments in farm mortgages on December 31, 1928, amounting to 1.9 billion dollars. No figures are avail-

able to show the number of foreclosed farms held by the insurance companies, but assuming the foreclosures to have been around three per cent, the same as for the Joint Stock Land Banks, the value of farms held because of foreclosed mortgages would amount to about fifty-seven million dollars. The total here given for the three groups, the Federal Farm Loan Banks, the Joint Stock Land Banks, and the insurance companies, is well over one hundred million dollars. The number of farms cited does not, of course, represent the total number of farms held because of foreclosed mortgages. The forced sales of farms because of delinquent taxes and foreclosure of mortgages still continue at a high rate. They numbered 21.6 per thousand in 1926; 23.3, in 1927; 22.8, in 1928; and 19.4, in 1929. Bankruptcies among farmers have averaged well over six thousand annually. They numbered 6,296 in 1927, or 13.1 per thousand of the total farmers. It is, therefore, a conservative estimate that foreclosed farms in the hands of rural banks, finance companies, and individuals, outnumber at least three or four times those held by the insurance companies and the Farm Loan and Joint Stock Banks. It probably may be considered as a conservative estimate to say that farm property to the value of over a quarter billion of dollars is today held by corporations who are interested in a method of so-called corporation farming, in order to secure some return on their frozen assets. The subject of overhead costs of farm land, divorced from farming, is therefore of more than academic interest.

## FARM INCOME AND OVERHEAD COSTS

The present situation is, moreover, complicated by the fact that there is a definite lag between farm income and the various overhead costs. In a period of agricultural expansion, farm income will rise faster than overhead costs, and additional deductions from the overhead may be made by the appreciation of farm values.

In a period of agricultural depression, the lag is reversed. The farmer is likely to have inherited large mortgages from the period of inflated land values, mortgages bearing rates of interest that were fixed for some years ahead at a time when money was scarce and interest rates were high. High interest rates from the period of prosperity are projected into the future, frequently for long intervals, making for interest charges which are light in periods of prosperity, but which become burdensome in periods of agricultural depression. This, in fact, is the situation with regard to interest rates which many farmers are facing.

In industry it is frequently possible to refinance bond or mortgage issues if it is subsequently shown that the interest rates have been fixed too high. Farm mortgages, though usually fixed for a short time, often from three to five years, are nevertheless less flexible because of the scarcity of money available for such mortgages when farming is in a depressed state and because of the high rates which prevail when farming is prosperous. The corporations having foreclosed farms on their hands have, of course, been able to write these mortgages off at more favorable rates to the farms in order to improve their showing.

There is a lag in taxation to catch up with prosperity. During the period of farm prosperity taxes are likely to rise, but not as rapidly as does farm

income. It is true, however, that once rural improvements have been begun, schools have been enlarged, and better road projects and building projects have been undertaken, these taxes which seemed light during the period of adequate farm income are projected well into the future; and should prosperity change into depression they become burdensome adjuncts to farm overhead.

Finally, the depression of farm real estate values is at this time one of the heavy charges that must be included in the overhead. Up to 1919, farm real estate was advancing in value. In fact, one of the reasons for the over-expansion in agriculture was this constant appreciation in farm values, whereby the farmers were willing to accept the paper profits of increased valuation on their land as reward for their labor when they were unable to make more than a bare living from farming. It is no secret that the great rush to develop the agricultural empire of the Northwest, of the South, and of the arid regions of the far West was due to a gigantic land speculative mania. Land rose in value every year. Farmers from the East bought land in Ohio; farmers sold their Ohio land to go on the relatively cheaper land of Wisconsin, and by their influx raised the value of that land. The farmers of Wisconsin sold their farms only to buy land from Iowans, who were selling to buy land in Minnesota, and there the corn belt was being pushed north to make the cheaper land of North Dakota available for immigrants from Minnesota. The history for half a century of any farm family reveals a migratory process of swapping land which, in its turn, contributed to high price of land.

## DECADE OF LAND DEPRECIATION

The situation has changed wholly since 1919. Land instead of appre-

ciating has annually been depreciating in value; to be sure, at a lesser rate in recent years, but, nevertheless, taking the country as a whole, at a sufficiently important rate to make it a significant item in the overhead costs.

Taking the year 1913 for all farm real estate in the United States as 100, real estate values rose to 170 in 1920, and from thence fell to 117 in 1928, and to 116 in 1929. The fall was greater between 1920 and 1924 than in more recent years: thus, between 1920 and 1921, the fall was from 170 to 157; from 1921 to 1922, it was from 157 to 139; but between 1927 and 1928, it was only from 119 to 117; and by 1929 it had fallen to 116. If we divide the country geographically, virtually every part of the country contributed to this rise and fall in sympathy with the general cadence. Thus, in Iowa the peak of 213 was reached in 1920, the fall in value reaching 116 in 1929. In Tennessee a peak of 200 was reached in 1920; the recession went to 125 in 1929. Special conditions flattened this curve in the Pacific Coast states. In California the peak of 167 was reached in 1920, with moderate annual declines to 160 in 1928. The average trend of decline in farm values throughout the United States during the last eight years has been at the rate of five per cent annually, but this probably does not indicate a true trend projected into the future. It is not improbable that a great deal of the inflation has been taken out of farm real estate, and that future depression will come at a diminishing rate. Using the last three years as an indication of the future trend, the depression of farm values should be around two per cent annually.

The interest cost enters as an overhead cost of real estate ownership from two angles: first, on the interest of the capital invested by the owner over and above the mortgages; and second,

the interest cost of the mortgages. The first part need not be discussed here since it does not represent a fixed charge, but is necessarily a variable depending upon the financial prudence with which the farm has been purchased and the profits that are made with sound management.

There are a number of sources through which long-time credit or mortgages may be secured for farms. These include commercial banks, life insurance companies, Federal Farm Loan mortgages, and state banks and state credit agencies. The rates of interest vary widely, both from the standpoint of the sources from which the mortgage is secured and the locality in which the farmer happens to be situated. Long-time mortgages in the West are as high as seven and nine per cent, whereas in many communities of the East, and even in the Northwest, interest rates are well below five per cent. These variations are even more marked in the case of loans based on personal and collateral securities. Before the establishment of the Federal Farm Loan system, there were wide fluctuations in the interest rates, depending upon the condition of the money market or the availability of credit at the time that mortgages became due. The demand for mortgages fluctuated with the opportunities for profitable use of funds and with the supply of loanable funds. In many regions where savings were large, both individuals and banks were willing to make loans at reasonable rates. In other regions where savings were small and loans difficult to get, rates were relatively high. In many regions where the risks seemed great, such as in the more arid regions of North Dakota, in portions of Nebraska, and South Dakota, rates were higher than in the same state with more steady rainfall and with greater assurance

of a better average crop. All these conditions have been equalized to some extent by the Federal Farm Loan system, whereby credit is made uniformly available throughout the United States. The Federal Farm Loan Banks will make the loans directly to farmers or through farmers' associations, and accept farm mortgages as collateral on which they will issue farm loan bonds. These farm loan bonds, predicated on farm mortgages, have until recently enjoyed the confidence of the financial community and have sold at reasonably low rates of interest. In recent years they have suffered, in common with other bonds, from the general money shortage resulting from the diversion of funds to the stock market. Prime commercial paper in New York brought from six to six and one-half per cent during the greater part of 1929, compared to four per cent in 1927 and four to five and one-half per cent in 1928. The rediscount rate of most of the Federal Reserve Banks stood at five to five and one-half per cent, and at one time rose to six per cent for the New York district, compared to four per cent and less in 1927, and four to five per cent in 1928. This condition of high rates for bank loans naturally affected bonds unfavorably and bore especially heavily on farm mortgages.

In more recent years, in case of a Federal Farm Bank loan, there must be allocated to the annual costs, if not to the overhead costs, the amortization costs of the mortgage which the Federal Farm Loan system required when making loans.

#### INCREASED TAXATION OF FARM PROPERTY

Taxes on farm property increased approximately one hundred and forty per cent between 1914 and 1923. The value of farm products in 1923 was only

fifty-eight per cent more than in 1914, while the income receipts to farmers were little, if any, greater in 1923 than in 1914. Taxes have increased, but the funds from which the tax is paid has not increased. This, in practice, demonstrates the theory of the lag of farm income to taxes. The greater part of these farm taxes are levied on real estate, although in 1923 twenty-five per cent, in addition, was paid on personal property. Farm real estate is mainly assessed for taxes on the sale value, but, of course, the valuation throughout the United States shows all the shortcomings of a system based on private judgments and susceptible to influences other than a desire for fair appraisal. In Pennsylvania, assessment is supposed to be one hundred per cent of the sale value. In other states a lesser assessment is taken. The rate of taxation, of course, is not changed by the juggling of these figures. However, in the absence of any general expert method of measuring sale value, where an actual sale has not been made in many years, the great bulk of real estate assessment in the United States is largely based upon the personal opinion of assessors or of the reviewing bodies. The assessments in various parts of the same state and county, therefore, differ widely and often show gross inequalities, some of them attributable to errors in judgment, and many to other causes. Small properties are very likely to be assessed a higher percentage of the full value than larger properties, and proportionally, therefore, bear a heavier burden of the taxes.

The outstanding feature of this tax system is that, unlike the income tax, which adjusts itself to varying ability to pay, the farm real estate tax is an inelastic charge, one that lags far behind farm prosperity, but continues to rise once it has gained momentum,



even in a period of farm depression, and becomes excessively burdensome when the farm income is declining.

With the exception of fire insurance, which probably forms the best co-operative enterprise existing among farmers, no adequate insurance facilities exist for windstorm, hail, or other factors that may disturb farm income. To be sure, there are companies in existence that will accept such insurance, but the cost is neither scientifically determined nor reasonable.

There remains the important item of management as an overhead of farm real estate ownership. Assuming a life insurance company with a large number of farms on its hands—farms which were secured through foreclosed mortgages—it is not likely that these farms are adjacent. It is not even probable that these farms would be located in one county, or even in one state. One insurance company has foreclosed farm properties not only in many of the southern states, but also through the Middle West. The supervision that can be given such real estate scattered over several counties, or even several states, and furthermore, non-contiguous, is expensive. Any attempt to estimate such supervision cost is hazardous. The insurance company in question would require a staff of supervisors over the county or the state and another organization to supervise the state or district supervisors.

#### MANAGEMENT CORPORATIONS

Management corporations have sprung up all over the United States which have attempted to relieve banks, finance corporations, and life insurance companies of the problems of managing the real estate so acquired. These management companies are altogether too young and have had too checkered a career to justify, at this time, any statement of their probable

success. Essentially, their problem does not differ from that of the original farm-owning corporation.

The problem of management overhead is probably the most important faced by these corporations. Most of them do not wish to be engaged in farming or in managing farms. They would prefer to sell the farms and rescue as much of the mortgage investment as possible. But, in the scramble to sell, these corporations have cut the ground from under each other's feet, contributing to the general demoralized condition of the farm real estate situation. On the other hand, operation of farms is not proving satisfactory, since it exhibits all the weaknesses of corporation farming, especially if a corporation has no experience and prefers not to be in farming. On the other hand, the system of renting these farms to local tenants, with a view to converting the renters into prospective purchasers, is meeting with more success, but the supervision and overhead are expensive. Supervisors are required for every ten and, at the most, every fifteen farmers. With the narrow margin of profit in agriculture, this proves expensive.

Because of the fact that almost a quarter of a billion dollars' worth of farm property is involved, it may not be amiss to make a suggestion to these corporations regarding the problem of overhead cost in supervision. The cost grows because of the distances between the farms, and almost always several companies have overlapping areas of supervision. The problems of supervision of management and ultimate sale can be dealt with coöperatively in one of two ways: (1) the companies can exchange farm property in such a way that the property of any one company can be concentrated in certain counties or states; or (2) a management company can be organ-

ized, capitalized by the contributing real estate of the various corporations, to look after the management and the sale of the farms. Neither one of these schemes presents insuperable obstacles towards corporation management of the farm real estate assets of the larger life insurance companies

and Federal Farm Loan Banks. Either one has elements that would make an experiment profitable to the corporations and of some social value if it demonstrates the possibility of retaining the family-sized farm under corporation supervision as a profitable economic unit in our changing agriculture.

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# A Comparison Between Urban and Rural Taxation on Real Estate Values

By M. SLADE KENDRICK

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THE phrase "urban and rural" runs through much of social and economic literature. Contrasts and comparisons, theses and antitheses, employing this phrase abound. At present this is especially true in taxation. In recent years, a considerable number of monographs on state taxation have appeared. Such studies commonly include comparisons between rural and urban taxation. Perhaps sufficient comparative materials have been assembled and enough issues have been raised to justify their analysis and restatement in an article written from the national rather than the state point of view.

The taxation of urban and rural real estate values may be compared on at least five different bases: (1) the place of taxes on real estate in the system of state and local taxation; (2) the method of levying these taxes; (3) the assessment of the property; (4) the trend of real estate taxes; and (5) the relation of these taxes to income from real estate. All these afford suitable bases on which to compare urban and rural taxation, and should be included in any comparison where the word "taxation" is interpreted broadly. In order to present a true account, such a comparison should stress similarities as much as differences.

## PLACE OF REAL ESTATE TAXES IN SYSTEM

Owners of real estate, whether their holdings are in the city or in the country, find much in common if their taxa-

tion problems be compared in respect to the place of taxes on real estate in the system of taxation and in respect to the method of levying these taxes.

Taxes on real estate are of unique significance in state and local taxation. This is because of their great quantitative importance and because of the peculiar method of levying these taxes. By far the greater part of all taxes on general property is paid on real property. Although theoretically and legally, under the assumptions of the general property tax, much of this burden should rest on personal property, practically, on account of the escape of personalty from the assessment roll, taxes on general property are taxes on real property. Something of the quantitative importance of real estate taxes in the United States is indicated by the fact that approximately three-fourths of the huge sum of state and local taxes collected annually are derived from levies on general property, which, in the practice of taxation, is mostly real estate. If local taxes only are included, the percentage of such tax revenues originating from levies on general property is nearer ninety per cent. Differences between the proportion of rural and urban tax revenues derived from levies on general property are not significant.

## METHOD OF LEVYING TAXES

General property, and therefore real estate taxes, whether urban or rural, differ from other taxes in that they are levied on an apportioned basis. The

estimated expenditure of the governmental unit, minus the estimated revenue receipts from other sources, gives the amount to be apportioned. This amount is then apportioned on the basis of the assessed valuation of the taxable property of the district. Such a method of obtaining the rate means that it is peculiarly sensitive to changes in governmental expenditures. Other taxes are levied at percentage rates which, as matters of statute or of ordinance, remain the same until changed by law. Only infrequently do receipts from these taxes vary on account of changes in their rates. Such rates are incorporated in the law and exhibit a pronounced tendency to remain fixed, for any attempt to change them precipitates a parliamentary battle. Not so with the tax on property. Custom and expectation alike decree that the rate of this tax shall change annually. The machinery of change operates smoothly and quietly. Subject to variations in receipts from other sources and to changes in the assessed valuation of the property, a rise in the expenditure of state and local governments is followed in almost automatic sequence by a rise in the rate of tax on property. A fall is followed in equally close sequence by a fall in the rate of tax on property.

#### ASSESSMENT OF REAL PROPERTY

The problem of assessment has perhaps received as much attention of late as any other tax problem. Most state studies of taxation which have appeared in recent years include some treatment of assessment, and a large proportion of them compare urban with rural assessments. Since each of these studies is devoted to taxation in some one state, a geographical grouping is suggested for their consideration.

The West is represented by studies of taxation made in Oregon, Colorado,

and Kansas.<sup>1</sup> The Oregon report, based on an examination of the assessed and the sale values of some forty thousand urban and rural properties, found that for the state as a whole urban and rural properties are assessed at about the same ratio of sale value, but that marked discrepancies exist in individual counties. However, in the judgment of the author of this study, the most significant finding was the variability of assessments of individual properties, both urban and rural. The overassessment of low value properties relative to high value properties was general. Because of the presence of this and of other varieties of inequality, it was discovered that less than one-half of the real estate of Oregon bears two-thirds of the real estate taxes, and the other one-half bears the remaining one-third of these taxes.

The Colorado investigation, in a section on assessments, compared the assessed valuation with the owners' valuation for both urban and rural properties. It was found that urban real estate in Colorado is assessed at a slightly higher percentage of owners' valuation than is rural property, and that the significant problem, both urban and rural, lies in the inequalities in the assessment of individual properties.

The Kansas study examined the ratio of assessed value to sale value for some twenty thousand properties in urban and rural real estate. It was found that city real estate is usually assessed at a higher ratio of assessed value to sale value than is farm real estate, and

<sup>1</sup> W. H. Dreesen, "A Study in the Ratios of Assessed Values to Sale Values of Real Property in Oregon," *Oregon Agr. Exp. Sta. Bul.* 233 (June, 1928); Whitney Coombs, L. A. Moorhouse, and Burton D. Seeley, "Some Colorado Tax Problems," *Colorado Agr. Exp. Sta. Bul.* 346 (Sept., 1928); Eric Englund, "Assessment and Equalization of Farm and City Real Estate in Kansas," *Kansas Agr. Exp. Sta. Bul.* 232 (July, 1924).

serious inequalities in the assessment of both urban and rural real estate were disclosed. These inequalities included a marked overassessment of small properties and the presence of gross inequality in the assessment of individual properties, irrespective of valuation.

#### ASSESSMENT CONDITIONS IN THE MIDDLE WEST

Some index of assessment conditions in the Middle West is probably afforded by studies of taxation in Iowa, Illinois, and Ohio.<sup>2</sup>

The Iowa study, on the basis of an extended investigation, reports a striking similarity between the assessment of rural and of urban real estate. The average percentage of assessed value to sale value for all rural properties studied was found to be 46.03; for all town and village properties, 48.15; and for six large cities, 48.02. Great inequalities in individual assessments, both urban and rural, were discovered with a marked discrimination against low value properties. These inequalities were found to be more pronounced in urban than in rural assessments.

The study of the tax situation in Illinois disclosed the facts of assessment in the city of Chicago, in the other cities of the state, and in the rural areas. It was found that the average assessment of real estate in Chicago, in 1926, was 31.3 per cent of sale value; in the other cities of the state, 26.6 per cent; and in the rural areas, 36 per cent. The most significant result of this study was the uncovering of gross inequalities in the

assessment of both urban and rural property. It was found that in Chicago wide differences in assessment exist between different classes of property, with business properties assessed at the highest rate and vacant land at the lowest rate; and that the average deviation of the assessment from the level of uniformity was 38 per cent. In a computation including the cities outside of Chicago, and the rural areas, it was found that the average deviation of the assessment from the level of uniformity was 45.8 per cent. A separation of the assessments outside of Chicago into rural and urban areas disclosed the presence of severe regression in the taxation of both groups because of overassessment of low value properties relative to those of high value.

The Ohio investigation reported the existence of inequalities in the ratio of assessed value to sale value between farm and city real estate in the same county and between rural townships in the same county. Before the 1925 state reappraisal, rural properties, on the average, were assessed at 77.16 per cent of sale value, and city and village real estate were assessed at 62.64 per cent. After the reappraisal, these percentages became 83 and 83.78, respectively. A study of rural assessments in four counties in this state showed that low value properties are overassessed relative to high value properties.

#### STATUS OF ASSESSMENTS IN THE EAST

Tax studies in Pennsylvania, New York, Massachusetts, and Delaware may well represent the assessment status of urban and rural real estate in the East.<sup>3</sup>

<sup>2</sup> F. P. Weaver and Clyde L. King, "Some Phases of Taxation in Pennsylvania," *Pennsylvania Dept. of Agr. Bul.* 24 (Dec., 1926); *Annual Report of the New York State Tax Commission for 1925*; Hubert W. Yount, "Farm Taxes and Assessments in Massachusetts,"

<sup>3</sup> J. E. Brindley and Grace S. M. Zorbaugh, "The Tax System of Iowa," *Iowa Agr. Ext. Bul.* 150 (Jan., 1929); Herbert D. Simpson, *The Tax Situation in Illinois*, Institute for Research in Land Economics and Public Utilities (Aug., 1929); H. R. Moore and J. J. Falconer, "Public Revenue in Ohio with Especial Reference to Rural Taxation," *Ohio Agr. Exp. Sta. Bul.* 425 (Aug., 1928).



In a detailed study of assessments in a number of Pennsylvania counties it was found that with one exception rural properties in these counties are, on the average, assessed at a higher ratio of sale value than are urban properties. Wide inequalities in individual assessments were disclosed. It was found that on account of inequalities in assessment some property owners in cities and some on farms pay from two to nine times as much in taxes as do others owning properties of equal value located in the same city or township.

The New York State Tax Commission has arranged sales of real property in value groups and has compared them with assessed values. This tabulation includes 166,000 sales of real estate made in the state outside of Greater New York, and Westchester, Erie, and Hamilton counties. These sales were made between 1915 and 1925, but only a few from 1915 to 1917 are included. The average ratio of assessed value to sale value in cities was found to be 63.6 per cent; in incorporated villages, 51.6 per cent; and outside of cities and incorporated villages, 49.1 per cent. Thus, unlike the situation in Pennsylvania, the evidence in New York indicates that urban properties are assessed higher than are rural properties. In all three groups, a decided overassessment of low value properties appeared.

The Massachusetts study concluded that urban property in that state is assessed higher than is rural property. So far as it was concerned with assessments, the emphasis in this investigation was on inequalities in the assessment of individual properties. It was found that the assessment of farm prop-

erty differs widely as between farms in the same town, as between farms in different towns, and even as between farms representing different types of farming. Some inequalities in urban assessments were also indicated.

The Delaware study reported a higher ratio of assessed value to sale value for rural than for urban properties in each of the three counties of this state. Inequalities in the assessment of both urban and rural properties were discovered and measured, and overassessment of low value properties was noted. A comparison in respect to relative uniformity of assessments was made with Kansas and with Oregon. It was found that assessments in Delaware are much more uniform than those in Oregon and somewhat less uniform than those in Kansas.

In the South, few studies which include an account of urban and rural assessments have been published, but perhaps those made in Arkansas and in North Carolina indicate something of assessment conditions in this section of the country.<sup>4</sup>

In Arkansas, the sale values of urban and of rural real estate were estimated and compared with the assessed values. It was found that urban real estate is assessed at a higher rate than is rural real estate. However, inequalities in the assessment of each group were shown to be more significant than variations between the groups.

The North Carolina study found that, on the average, city property was assessed at 58.6 per cent of its estimated full value, and rural property, at 75 per cent. Within each group, important variations in assessment appeared. Business properties were assessed at 57.6 per cent, and residence

*Massachusetts Agr. Exp. Sta. Bul. 235* (Apr., 1927); M. M. Daugherty, "The Assessment and Equalization of Real Property in Delaware," *Delaware Agr. Exp. Sta. Bul. 159* (Dec., 1928).

<sup>4</sup> C. O. Brannen, "The Farm Tax Problem in Arkansas," *Arkansas Agr. Exp. Sta. Bul. 223* (Feb., 1928); *Annual Report of the Tax Commission of North Carolina for 1928*.

properties at 63.1 per cent. A wide range of ratios of assessed values to estimated values for rural property was disclosed. An investigation of the relation of the assessment ratio to the value of the property disclosed over-assessment of low value properties, both urban and rural.

#### DISCRIMINATION NATIONWIDE

This review of assessment findings, though necessarily brief, is nevertheless believed to present significant evidence for a comparison of urban and rural assessments in the United States. If it be granted that this sample of conditions in twelve states is fairly representative of the whole, and if the method of comparing assessed values with sale values or with estimated values be accepted,<sup>5</sup> the evidence offered by these studies is direct and conclusive. Whatever differences between the assessment of urban and of rural real estate may exist in individual states, the findings of these studies indicate no noticeable difference for the

country as a whole. The important differences in assessment are between individual properties, whether urban or rural. Discrimination—which is all too frequently gross—is almost universal. Everywhere the proper assessment of individual properties is the problem.

One who is enough of a pessimist to believe in the doctrine of the natural perversity of things finds in the assessment situation a gloomy illustration of this theory. The very discrimination which is most decided and most general—that between individual real properties—is the most costly discrimination possible in the assessment of real estate. This is because most taxes on real estate, whether urban or rural, are paid to the local government. Thus, discrimination in the assessment of individual real properties affects the major portion of the tax on real estate. But, discrimination in assessment as between urban and rural tax districts, or as between urban or rural tax districts, affects only the minor portion of the tax on real estate.

#### TRENDS IN REAL ESTATE TAXES

A comparison between the trends of urban and rural taxes on real estate is

("Taxation of Farms in Missouri," by C. O. Brannen and S. D. Gromer), rural real estate in four Missouri counties is compared over a five-year period with urban real estate in respect to the per cent which the capitalized net rent is of the owners' estimated value. In all years except one, this per cent was higher for rural real estate. The five-year average indicated that for each \$1,000 of owners' estimated value in the country, \$457 was justified by the capitalization of the net rent; but that for each \$1,000 of such estimated value in the city, \$842 was justified by the capitalization of the net rent. Legally, \$1,000 of real estate valuation is \$1,000, whether urban or rural. These Arkansas and Missouri studies suggest that from the point of view of economics, \$1,000 of real estate value in the country may be something other than \$1,000 of real estate value in the city.

<sup>5</sup> Studies of urban and of rural valuation of real estate should be made with a view to determine whether or not, in the long run, valuation in the city means precisely the same thing as valuation in the country. In the law, real property, both urban and rural, is assessed at some per cent, usually one hundred per cent, of its fair, true, full, reasonable, actual, or sale value, all of which terms may be translated as the market value arising from a voluntary sale in which the motives of buyer and seller are economic. But, if this market value is one thing in the city and another thing in the country, the existence of similar ratios of assessed to market value for both urban and rural real estate establishes only a legal equality of assessment between them. It does not establish an economic equality.

What the writer has in mind is suggested by tax studies made in Arkansas and in Missouri. In the Arkansas study, already cited, it is remarked that, although the ratio of assessed valuation to estimated valuation is lower for rural than for urban properties, it becomes considerably higher for rural properties than for urban when assessed valuation is compared with capitalized earnings. In the Missouri study

limited by the few measures of urban taxes which are available. Because of the agricultural depression, much emphasis has been placed on studies of farm taxation and a number of indexes of farm taxes have been computed. However, few studies have been made of real estate taxation in the relatively prosperous cities, and therefore only a few index numbers of the trend of these taxes are available.

In Kansas, taxes on farm real estate, when measured from a 1910-1914 average of 100, were 239 in 1923.<sup>6</sup> Taxes on city real estate, measured from the same base period, were 301 in 1923. The rise in both rural and urban taxes was continuous and in some years decidedly sharp.

A Wisconsin study includes measures of rural and urban taxes paid in that state.<sup>7</sup> These taxes are not strictly comparable with those measured in Kansas, for they include personal property and income taxes as well as real estate taxes. It was found that the average of a selected group of farm families paid \$160 in taxes in 1913 and \$381 in 1924, and that the average of a selected group of city families paid \$99 in 1913 and \$422 in 1924. In each year for which a computation of taxes was made, these taxes, whether rural or urban, increased.

The study of taxes in Ohio, already cited, reported that rural taxes increased 127 per cent from 1913 to 1926, and that during this period urban taxes increased 259 per cent. These are general property taxes levied mostly on real estate.

In New York, taxes on farm real estate in 1924 were 220 when the

average of 1910-1914 is called 100.<sup>8</sup> With the exception of New York City, taxes on urban real estate, in each of the city groups studied, increased more during this period than did farm taxes.

These few comparisons between the trends of urban and rural taxation of real estate serve to illustrate rather than to confirm a relationship which, on analysis, is evident. Rural and urban taxes on real estate are of similar importance in the revenue systems of country and of city tax units. They are influenced by the same factors of changes in commodity prices, in wage and salary rates, and in demand for improvements in public services. Clearly, on these grounds it would be expected that trends of urban and rural taxes on real estate would be similar. Because of the relatively more prosperous economic condition of cities during the latter part of the period studied, urban taxes would be expected to have increased more rapidly than rural taxes.

#### REAL ESTATE TAXES AND INCOME

In view of the inherent differences between urban and rural incomes derived from real estate, and the serious difficulties which therefore arise in their comparison, a considerable body of data has been assembled comparing urban and rural incomes from real estate in respect to the percentage of these incomes absorbed by taxes.

The Colorado study of taxation, in a section on income related to taxes, emphasized data gathered from rented properties, both rural and urban.<sup>9</sup> It was found that in 1926 taxes on rural properties absorbed 23.8 per cent of the

<sup>6</sup> Eric Englund, "The Trend of Real Estate Taxation in Kansas from 1910 to 1923," *Kansas Agr. Exp. Sta. Bul.* 235 (Sept., 1925).

<sup>7</sup> B. H. Hibbard and B. W. Allin, "Tax Burdens Compared," *Wisconsin Agr. Exp. Sta. Bul.* 393 (March, 1927).

<sup>8</sup> M. Slade Kendrick, "An Index Number of Farm Taxes in New York and its Relation to Various Other Economic Factors," *Cornell Agr. Exp. Sta. Bul.* 457 (Dec., 1926).

<sup>9</sup> Whitney Coombs, L. A. Moorhouse, and Burton D. Seeley, *op. cit.*

net rent. For that year, taxes on urban properties absorbed 27.1 per cent of the net rent.

A study of taxation in South Dakota compared urban and rural rented properties in respect to the percentage of net rent taken by taxes.<sup>10</sup> From 1919 to 1926, taxes on city properties averaged 29.2 per cent of net rent, and taxes on farm properties averaged 28.4 per cent. In 1926, the percentages for city and farm were 28.3 and 29.8, respectively.

The Wisconsin study of taxation was devoted to a comparison of tax burdens in Dane County, Wisconsin.<sup>11</sup> It undertook to measure the burden imposed by the total of all annually recurring taxes paid by the individual and so recognized by him. Taxes on real estate, on personal property, and on incomes, were included. Thus, because of the limited area studied and because of the inclusion of taxes other than on real estate, conclusions from this study are not strictly comparable with others cited here. Nevertheless, they furnish a valuable comparison of total tax burdens. It was found that in 1924, 22.5 per cent of the average net farm income was absorbed by taxes, and that only 8.9 per cent of the average net city income was so absorbed. In each of the other years studied, 1913, 1914, 1918, 1919, and 1923, taxes absorbed a higher percentage of the average net farm income than of the average net city income. In 1913, these percentages were 12.3 and 4.8, respectively.

The Iowa investigation, on the basis of a comprehensive volume of information, particularly on rural properties, reported that taxes on cash rented farms in 1926 averaged 27.7 per cent of net rent, and on share rented farms,

27.0 percent.<sup>12</sup> In 1927, taxes on owner-operated farms averaged 22.5 per cent of the net income. Taxes on business properties in Iowa cities in 1927 averaged 31.5 per cent of the net rent, and on residence properties, 29.9 per cent.

The Pennsylvania study, after an intensive investigation of net real estate incomes and taxes in six counties of that state, found that in five of these counties taxes absorb a larger proportion of the average net farm income than of the average net city income.<sup>13</sup> In each of these five counties, the difference between the percentages of net income absorbed was significant.

#### TAXATION AND NET RENT

The study of taxation in Arkansas disclosed that taxes on rented farms from 1921 to 1925 averaged 18.1 per cent of net rent.<sup>14</sup> During this period, taxes on city real estate averaged 16.7 per cent of net rent. In 1925, these percentages were 17.2 and 16.7, respectively.

The comprehensive report on taxation in North Carolina, published by the Tax Commission in 1928, includes a comparison of the percentage of net rent absorbed by taxes on rented urban and rural properties. It was found that this percentage for 1927 averaged 29.5 for urban properties and 28.9 for rural properties.

A release from the United States Department of Agriculture on June 16, 1928, gives the results from a comparison of taxes on rural with taxes on urban property in Virginia. In 1926, taxes on business and residential properties in thirty-three towns and cities averaged 16.0 per cent of net rent. During the same year, taxes on farm properties in thirty-three counties averaged 20.0 per cent of net rent.

<sup>10</sup> E. P. Crossen, "Taxation and Public Finance in South Dakota," *South Dakota Agr. Exp. Sta. Bul.* 232 (June, 1928).

<sup>11</sup> B. H. Hibbard and B. W. Allin, *op. cit.*

<sup>12</sup> J. E. Brindley and Grace S. M. Zorbaugh, *op. cit.*

<sup>13</sup> F. P. Weaver and Clyde L. King, *op. cit.*

<sup>14</sup> C. O. Brannen, *op. cit.*



A summing up of the evidence presented by these comparisons of taxes with income indicates that, in five of the eight states, taxes on rural real estate comprised the larger percentage of net income, and that in the three instances where the difference was significant rural taxes absorbed a larger percentage of income than did urban taxes. Admittedly, eight states may not be sufficiently representative of the whole forty-eight. But, in so far as this particular group is representative, the evidence indicates that a larger, though not a greatly larger, percentage of the income from rural property is paid in taxes than is paid from the income of urban property. Additional evidence in support of this conclusion is afforded by the fact that during the last few years the agricultural industry has been relatively depressed in relation to the average city industry. It is to be expected that real estate taxes would take a larger per cent of the income of a relatively depressed industry than of a relatively prosperous one.

The question may well be raised whether this conclusion means precisely what it says, or more. Let it be supposed, for example, that thirty per cent of the income of rural real estate is paid in taxes and that twenty-five per cent of the income of urban real estate is so paid. Does the difference between thirty per cent and twenty-five per cent express the full difference in the burdens on the two classes of property? Probably it does not if there be included a consideration of relative dollars' worth of benefits, added to the incomes of urban and rural real properties from the expenditure of taxes collected on these properties. How much do efficient fire and police departments, a good school, and a convenient park add to the incomes of urban real estate? How much does a paved road or a muddy one affect the

income from rural real estate? Considerations such as these must be included in any true comparison between tax burdens on urban and on rural properties. Failure to include them is an error precisely analogous to that committed by a comparison of two corporations in terms of their expense outlays with no reference to their income statements. It is indeed unfortunate that at present, on account of lack of data, this error is inevitable in any comparison of the relative tax burdens on urban and rural real estate.

#### SUMMARY

Urban and rural taxation of real estate in the United States have been compared on five different bases: the place of real estate taxes, whether urban or rural, in the system of state and local taxation; the method of levying them; the assessment of real property; the trend of real estate taxes; and the relation of these taxes to income from real estate.

It was found that urban and rural taxes on real estate are of approximately equal major importance in state and local tax systems, and that they are levied on an apportioned basis, with the amount to be apportioned determined by the estimated expenditures of the governmental unit in question, less the estimated receipts from other sources. In individual states, some differences between the assessment of urban and rural real estate were disclosed, but for the country as a whole no difference was discovered. The significant problem of assessment was found to be the accurate assessment of individual properties, whether urban or rural. The evidence indicates that, when measured from a pre-war base, taxes on urban real estate have risen more than taxes on rural real estate. The data on the relation of taxes to income point to a heavier burden for rural properties.



# Farm Real Estate Values and Farm Income

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**G**RANTED that the value of farm realty is more in the nature of a result than a cause in the chain of economic causation, students of the agricultural situation in general are recognizing that the effects of land prices complicate the agricultural problem. Even before the war-time boom, for example, observers called attention to the bidding of land prices beyond what seemed a reasonable relationship to income, often with a resultant pressure upon the standards of living of farm families who were attempting to pay for high priced land.

## POST-WAR DECLINE IN VALUES

Low ratios of income to current real estate prices began to be recognized as a rather strong economic argument for tenancy. It often appeared to be cheaper to rent than to own. Finally, the war-time land boom, with its aftermath of foreclosures and reversions, bank failures, farmers ruined in money and morale, large acreages thrown into the hands of a new group of absentee owners to whom operation was an unanticipated and an unwelcome problem, and a revision toward greater strictness in mortgage credit policies as a result of the drastic deflation in values, probably emphasized as never before the importance of land prices in the agricultural situation. The continued decline in values after 1920, despite an indicated improvement in income from the low points of 1921 and 1922, led to such published comments as the following:

The chief cause of the present farm agitation is the decline in capital values since

1920 and the continuing dull market for land. The present agitation will continue until a definite up-trend in values sets in.<sup>1</sup>

The declining capitalization of farm land in the face of a rapidly increasing capitalization of urban industry is a new experience in the United States and highly significant. Land prices are already far below the wholesale price level. This situation may not seem justified by the present level of farm incomes measured either in money or in buying power, but the decline has continued and there is little assurance of a turn upward in the near future.<sup>2</sup>

To students of farm realty appraisal the subject is of unusual interest both from the standpoint of theory and of actual appraisal practice. Old as is the rent theory of our economics texts, the opinion may be ventured that but little has been done in attempting inductive verification of the rather broad generalizations which were arrived at by processes essentially deductive. Much as we emphasize that value represents the capitalization of a series of future incomes, one can see rather serious problems arising when attempts are made to apply that theory concretely to actual cases. In practical appraisal, often as one hears the statement made that income should be a principal factor in value, we find that, as a rule, income is taken into account in only a very general way. Valuation through the income route, strictly speaking, is rare in American appraisal practice.

Again, the events of recent years

<sup>1</sup> *Brookmire Farm Income Bulletin*, Dec. 15, 1927.

<sup>2</sup> *Harvard Economic Society: Weekly Letter*, vol. 7, no. 15.

have thrown into high relief the whole question of the adequacy of current valuation practice, particularly as to taking into great account present and future income. This led to inquiry about the composition of farm real estate values. Virtually all appraisers, when pressed to explain what lies back of the sale price basis which is their usual bench-mark in practical valuation work, will admit that it has something to do with income. But, specifically, how? In other words, the problem was driven back to theory, to principles, and to the little which had been done in actual research.

#### COURSES IN LAND VALUATION

As evidence of the feeling that older procedures had been defective, we find the wholly new development of short courses in land valuation. Ten years ago there were no such courses in America. By the close of 1929, at least seven institutions had sponsored them, and the program of the Mortgage Bankers Association of America has as an objective the establishment of such a course in every one of the principal agricultural colleges of the country. All of this search for information rather plainly demonstrated how little investigation had actually been done in a field represented by forty-five billions of invested capital and upon which rest ten billions in farm mortgages.

The subject, therefore, is one in which, fundamental though it be, research in this country can be said to have just begun. Under these circumstances, the writer can offer nothing in this article which is new or original. Perhaps it will be worth while, however, to touch very hurriedly upon the various phases which this topic comprehends: (1) movements in incomes and in farm real estate values in recent years so far as data are available; (2) the realignment of values in relation

to income which has taken place in certain areas; (3) income and value in theory; (4) "earning power" and valuation in practice.

#### INCOMES AND VALUES IN RECENT YEARS

Adequate measures of the share of total earnings contributed by farm real estate are not available. Even so, the factors entering into land prices are so complex that year-to-year fluctuations in earnings may not be reflected—at least, not immediately. Land yields its services year after year. One year's increase or decrease in income, therefore, may or may not affect value. Many considerations enter. How great that year's increase or decrease is; what its relationship to the trend over preceding years is; the extent to which it is considered more or less temporary, or as an indication of the future trend; the general future outlook for earnings—these and other factors produced their effects. It is probably the trend or average of income realized over a series of years which is the dominant influence on the side of the earnings. Even a reasonably stable trend in earnings, however, may be offset by other forces.

The data on something approaching net incomes which are available are shown for the country as a whole in Figure 1. The annual total agricultural income computations of the Bureau of Agricultural Economics were first made for the crop year 1919-1920, and the income statements of individual farmers were first collected from the Bureau's crop correspondents in 1922.

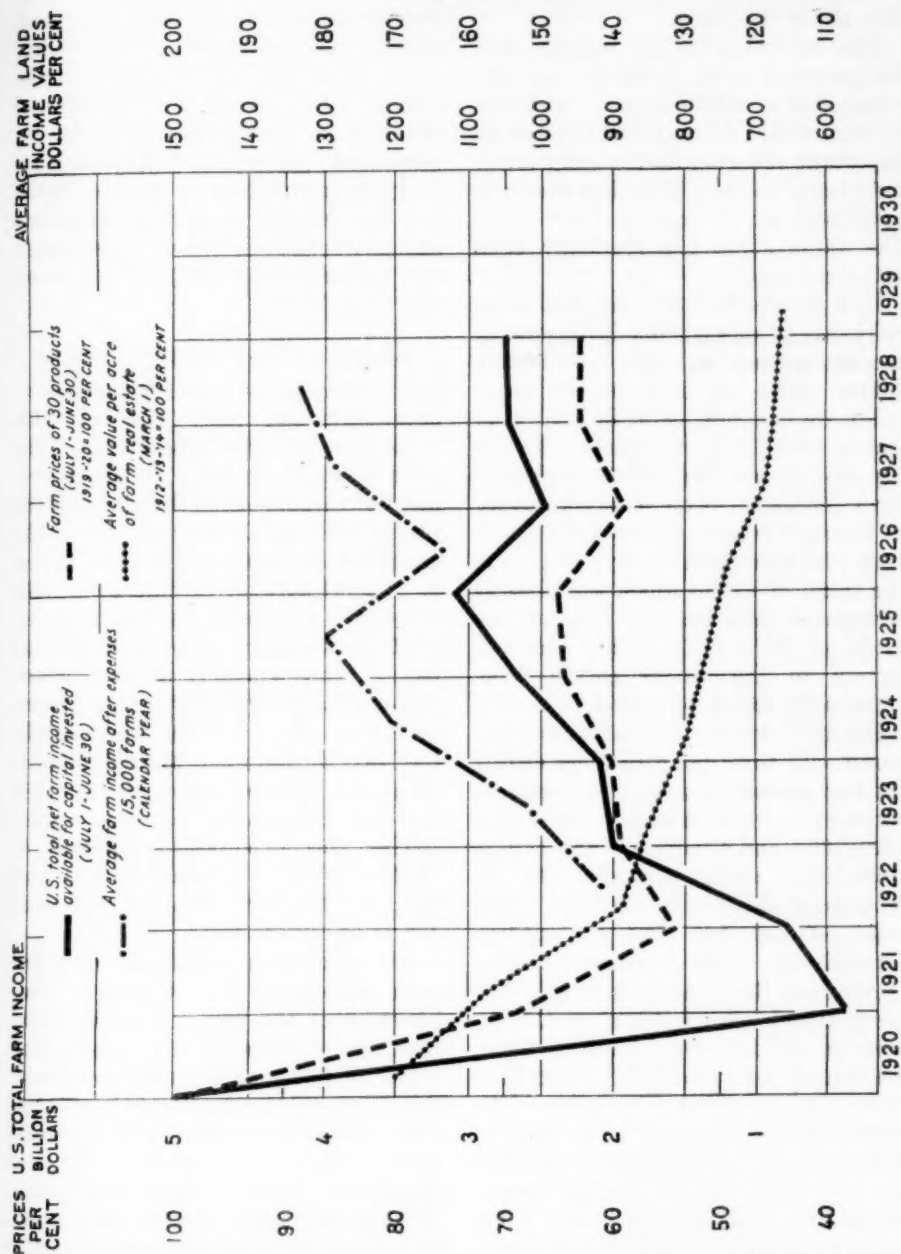
The recovery in income up to 1925 is apparent. Since about 1924, something approaching a horizontal trend has appeared in incomes and in the composite of prices of farm products. The outlook for the 1929-1930 market-

AVERAGE FARM LAND INCOME VALUES

U.S. TOTAL FARM INCOME PER BILLION

PRICES PER PRODUCT

FIGURE 1—FARM REAL ESTATE VALUES, PRICES OF FARM PRODUCTS, AND INCOMES, 1920-1929 \*



\* The recovery in agricultural incomes from 1922 to 1925, and the approximately horizontal product price and income trend since that year, were reflected in a progressively smaller annual decline in farm real estate values. Other important factors, however, were in operation on the downward side of values.

ing season is for returns not in excess of those received in 1928-1929 — probably about the same.

This up-swing in the incomes and the prices of farm products, and the subsequent approximate stability therein, would be expected to have an important influence in the progressive checking of the rate of decline shown in farm real estate values since 1920. The value curve has gradually been flattening out.

In a general way, one can find some reflection of movements in income in the movements of farm real estate values. The big drop in the value index, for example, came in 1920-1921 and in 1921-1922, coincident with the big drop in incomes and the prices of farm products. The steady recovery in incomes which followed to 1925-1926 was accompanied by a change in the trend of values much less sharply downward than before. The income break of 1926-1927, which was due largely to the record cotton crop, apparently found reflection in a five-point drop in the value index, as compared with three-point declines during the two preceding years. Subsequent recovery in incomes and prices during 1927-1928, and retention of this gain in 1928-1929, again appeared to be reflected in declines in the farm realty index of but two and one points, respectively. This one-point decline represented the smallest annual loss in the national value index since the depression set in. On March 1, 1929, the value index stood at 116 per cent of 1912-1914, regarded as pre-war. The corresponding position at the peak of 1920 was 170. If the income forecasts for the 1929-1930 marketing season prove true, little change in the value index from its 1929 position is likely, although there is as yet no assurance that the bottom has been fully reached in all states.

What the longer term future holds is, of course, a matter of conjecture. In any event, however, with the most drastic readjustments in the whole price system in the background, the various branches of the agricultural industry are now beginning to have a somewhat better basis in experience for judging what may be expected in the way of average operating conditions and earning power, and are accordingly in a better position to place values on real estate.

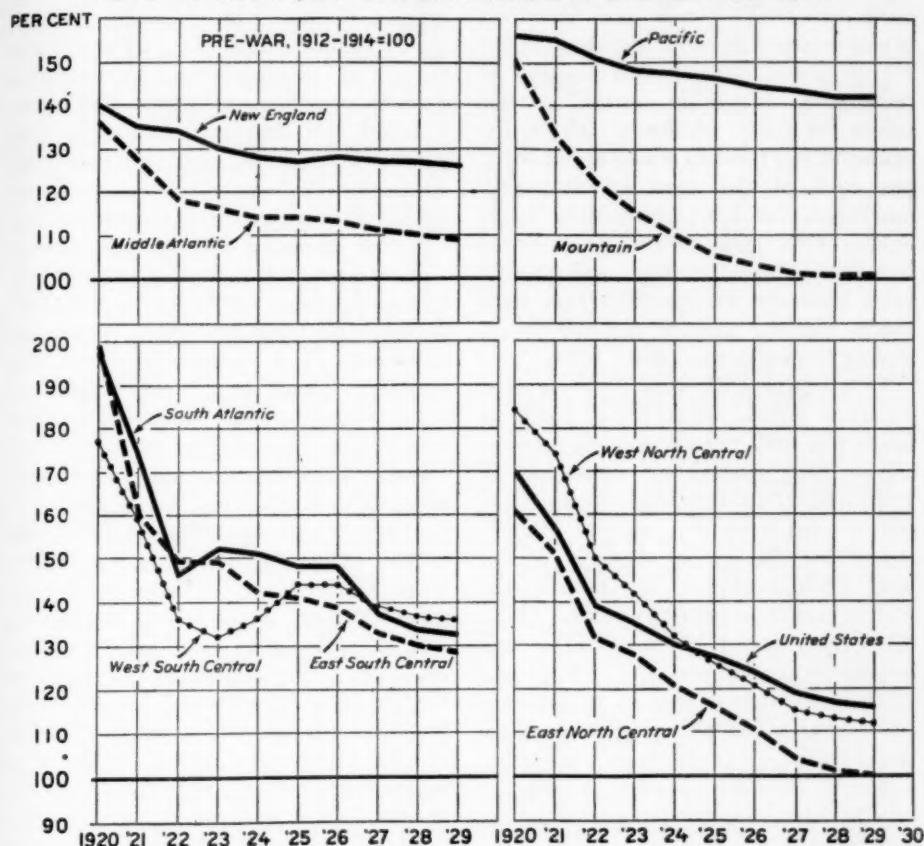
#### REGIONAL DIVERSITY OF VALUES

National totals and national averages obviously may conceal wide variations in their components. The wide regional diversity in the movement of values both in the extent of the rise to 1920 and in the character of the change since then is indicated in Figure 2. Unfortunately, income data suitable for our purpose are even less adequate on a regional than on a national basis. Some cursory, indirect observations of a general character, however, may be made. In 1920, for example, the New England and Middle Atlantic divisional indexes stood at only 140 and 136 per cent of pre-war, respectively; the two North Central or Middle Western indexes, at 161 and 184; and the three Southern, at from 177 to as high as 199.

An analogous situation occurred with respect to the war-time price behavior of the principal agricultural products of these three regions. The prices of dairy and poultry products, dominant in the Northeast's income, and also poultry, fruit, and vegetable prices, which are important there, rose the slowest and the least above their pre-war positions. Cotton went up in price the fastest and the farthest of the major product groups. Prices of the grains and meat animals, dominant in Middle Western returns, rose early to

FIGURE 2

## FARM REAL ESTATE: ESTIMATED AVERAGE VALUE PER ACRE, AS OF MARCH 1, BY GEOGRAPHIC DIVISIONS, 1920-1929\*



\* Farm real estate values showed considerable regional variation both in the extent of their rise during the war period and in the character of their movement since 1920. In part, this diversity of behavior appears to be a reflection of the course of the prices of, and incomes from, the principal products to which the agriculture of these areas is largely devoted.

levels higher than dairy and poultry products, but appreciably below those reached by cotton. This, no doubt, goes far to explain why the Iowa value index reached 213 in 1920, while the South Carolina index reached 230.

The comparatively small declines recorded in New England and Middle Atlantic farm realty values subsequent to 1920 no doubt were in a great measure attributable to the rather notable stability and comparatively

favorable levels maintained throughout the deflation by the prices of the principal Northeastern products, especially dairy products. The rather abrupt change in the trend of Cotton Belt realty values from 1922 to 1926 no doubt was largely attributable to the substantial recovery in cotton prices to very favorable levels.

The cotton price collapse caused by the record crop of 1926 found reflection in the rather sharp drop in the value



indexes for the three Southern divisions from 1926 to 1927, from which recovery in values does not yet appear to have occurred. Grain and livestock prices enjoyed no early recovery, as did cotton prices, and no such stability at reasonably favorable levels, as did prices for dairy products. Hogs, for example, the form in which about forty per cent of the corn is ultimately marketed, for four consecutive years during 1921-1924 held to price levels but little above pre-war; and after a brief recovery during 1925 and 1926 again reached almost pre-war levels during the early months of 1928.

Cattle prices, likewise, for four consecutive years, 1921-1924, held to levels but little above those of pre-war times; they moved up somewhat in 1925 and 1926, but only during 1927 did a real recovery set in. Cattle prices for the entire six-year period 1921-1926 averaged but twelve per cent higher than before the war. Oats, formerly a source of considerable cash income in certain sections of the Corn Belt, have been unable to maintain a price level much above pre-war, since the continued replacement of horse power by mechanical power in both the city and the country has continuously narrowed the market.

#### POST-WAR LEVELS OF COST

When over against such a situation on the receipts side of the Middle Western income statement were set such post-war costs as taxes which were two and one-half times pre-war taxes, labor which was two-thirds higher, and machinery and building materials which were half again higher, the rapid revision of Middle Western farm real estate values down toward pre-war levels was fully in line with the probabilities, if Corn Belt realty values were to be based on earning power, demonstrated in the past and reasonable to be expected in the future.

Offsets in the form of increased agricultural output have occurred, it is true, particularly toward a greater output of animal products per unit of feed consumed and toward the substitution of more efficient mechanical devices for horses and men. But, such a rapid and drastic deflation in the prices of products, and such post-war levels of cost items in relation to these prices, constituted rather overwhelming odds for increased efficiencies to offset.

The inadequacy of this generalized inferential description of the course of income and farm real estate values is apparent. The necessary data are lacking. There are also numerous other aspects of the picture of income and of the price of products which influenced the course of realty values, but into which this article cannot go.<sup>3</sup>

It is apparent that other factors than income were involved in the movement of farm real estate values in recent years. A glance at Figure 1, for example, may well suggest the question, "Why did values continue to decline after incomes and the prices of products recovered?" Space permits but brief mention of several other considerations which appear to have entered, to a varying degree, in different sections of the country. Among these are the following: (1) Values apparently respond rather slowly to changes in economic conditions, i.e., they lag at the turning points. (2) In a number of sections, particularly in the Middle West, an unusually large number of farms was thrown on the market during the deflation. This supply included land foreclosed and deeded back, land in weak hands, and land in

<sup>3</sup> For further discussion, see the following publications of the Bureau of Agricultural Economics: "The Farm Real Estate Situation," for 1926-1927, 1927-1928, and 1928-1929; "The Economic Basis of Farm Land Values" (mimeographed); and "Changes in the Value of Farm Real Estate in the United States, 1920-1925" (mimeographed).

hands that were strong, but wanted to sell. A farm, after all, is a second-hand article which sooner or later must be passed on to another owner. (3) This accumulated market supply was met by a sharply lowered effective demand. Most farm buyers are farmers. The combination of unsatisfactory incomes, of more attractive alternatives in the city, and of savings and other accumulations of capital seriously depleted or completely wiped out, was not conducive to a strong demand for farms. (4) Another influence, of importance in certain areas, was excessive depreciation in agriculture's physical plant. In periods of depression farm maintenance tends to the minimum, particularly in the low income areas and on the farms of the relatively poorer grades. (5) The supply of credit and the conditions under which it is extended are important considerations in the farm real estate field, as they are in the securities market. The policies of the major sources of mortgage credit underwent revision toward greater conservatism. (6) The value structure in certain sections of the country, at least, has undergone a major realignment with respect to its relationship to income. Values in certain areas fell faster than real estate earnings. This last point merits further consideration.

#### THE REALIGNMENT OF VALUES IN RELATION TO INCOME

The variation in the ratio of current real estate income to current valuations from area to area, and in the same area from time to time, is an interesting phenomenon. In a study made by the Bureau of Agricultural Economics in 1920,<sup>4</sup> for example, average net cash rents were found to vary from 2.2 per cent of average values in a group of central Minnesota counties to 6.5 per cent in the Yazoo-Mississippi Delta.

<sup>4</sup> C. R. Chambers, "Relation of Land Income to Land Value," *U. S. Dept. Agr. Bul.* 1224.

Data for Iowa, for example, show the following changes in the ratio of rent to value over a period of years:

TABLE I

Year	Per Cent Gross	Per Cent Net
1900.....	7.7	...
1910.....	4.3	...
1920.....	3.6	2.6
1925.....	4.8	3.4
1926.....	4.8	...
1927.....	5.2	...
1928.....	5.4	...
1929.....	5.6	...

Data, as yet incomplete from other states, suggest that a similar reversal of the trend in the earnings ratio has taken place in other states of the Middle West. The 1920 and 1925 ratios of average gross cash rents to values were found to be as follows: Missouri, 4.0 per cent and 5.4 per cent, respectively; Minnesota, 3.1 and 4.2; Illinois, 3.6 and 4.8; Indiana, 4.6 and 5.7; Ohio, 4.0 and 5.5. Comparable data for states other than these are not yet available. However, our knowledge of the pre-war and the war-time value structures suggests that this realignment of values in relation to income probably was more pronounced in the states of the Middle West than elsewhere.

Why this reversal of trend? From 1897 to 1920 the country experienced a steady upward trend in prices of farm products. The purchasing power of farm products in terms of non-agricultural commodities steadily increased. Cash rents rose year by year. Land had "never gone down." Apparently what happened was that these increases were projected into the future and were expected to continue as they had in the past. As a result, these future increases were capitalized into values, and values rose faster than incomes. The decline in mortgage rates of interest probably was a factor, also.

Since, 1920, values have been falling faster than incomes. Why? In general, because the old, low, pre-war rates of return are no longer acceptable. In part, the higher present ratio of income to value may be the result of the influence on values of distress sales; nevertheless, there is little question but that the increased rates of return represent a genuine change in ideas of what is an acceptable rate of return. Values are being written down to yield current returns more in line with going interest rates. Why this marking down? In the first place, there is the consideration that the outlook is no longer as certain as it was twenty years ago. The pre-war land value structure was built upon a rising level of prices of products. There have not yet been signs of any prolonged and continued rise in such prices. In a recent report of a committee of the Association of Land-Grant Colleges, the opinions of thirteen out of eighteen leading economists who expressed themselves on the subject were to the effect that the direction of the general price level over the next ten years would be downward. Whether or not that prediction turns out to be correct, an increase in farm real estate values in the immediate future apparently is not being counted on with the confidence exhibited a generation ago.

A second factor involved in this "marking down" may be that farmers of today are insisting on a better living than formerly. This is especially true of the younger people. They no longer appear as content to dig into the share of their income which should go to living in order to get money to pay six per cent mortgages on three per cent land.

The farmer's cost of living has risen with the city dweller's, and average prices for the things the farmer buys for use in living, computed upon a fixed budget, now stand at some two-

thirds above the pre-war level. But, the indications are that farmers are attempting to maintain a higher standard of living than before the war. They wish to buy more than before, and all the appeals of modern merchandising are urging them to do so.

#### INCOME AND VALUE IN THEORY

These changing relationships of value to income suggest, therefore, that more than realized incomes enter into farm real estate values. A farm yields income—or is expected to—for many years, for a lifetime. Therefore, incomes expected or anticipated in the future may be capitalized into present value, as often happens in the securities market. Theoretically, of course, realized incomes are merely water under the bridge, and can have nothing to do with value except in so far as past performance is used as a guide to future performance. Expectancy appears to be largely a product of experience, in most economic judgments.

Theoretically, the concept which appears most useful in explaining the composition of farm real estate values is the familiar one, that the value of a more or less permanent income bearer is a capitalization of a series of future incomes. A useful expression of this theoretical basis is embodied in a mathematical formula familiar to students in farm land valuation.

This formula is  $V = \frac{a}{r} + \frac{i}{r^2}$ , where

$V$  = the present value of the real estate

$a$  = present net rent

$i$  = anticipated average annual increase (or decrease) in net rent

$r$  = a rate of interest representative of the commonly accepted rate of interest on long-term commitments of capital.

Where there is no "i," the second

term disappears and the formula becomes  $V = \frac{a}{r}$ . The  $\frac{a}{r}$  term in the formula may also be thought of as that part of the present value which is based

measure current real estate yields. Such a comparison made in 1920, together with computation of the  $\frac{i}{r^2}$  in each area, is given in the following table:

TABLE II—CURRENT RATIOS OF NET CASH RENTS TO REAL ESTATE VALUATIONS AND THE ESTIMATED PROPORTION OF THE CURRENT VALUATION BASED ON CAPITALIZED FUTURE INCOMES IN SELECTED AREAS, 1920

Area	Counties Included	Ratio, Average Net Cash Rent to Real Estate Valuation *	Average Mortgage Rate of Interest	Estimated Percentage of Current Real Estate Valuation Based on Future Expectations
	Number	Per Cent	Per Cent	Per Cent
Western Ohio-Eastern Indiana . . . . .	36	3.4	5.8	42
Southern Wisconsin . . . . .	10	2.8	5.2	46
Iowa, Southern Minnesota, South-eastern South Dakota, Eastern Nebraska, and Northern Illinois . . . . .	111	2.4	5.5	56
Central Minnesota . . . . .	24	2.2	5.8	62
Yazoo-Mississippi Delta . . . . .	31	6.5	6.9	6

\* After taxes, depreciation, and upkeep of buildings.

upon "current earning power"; and the  $\frac{i}{r^2}$  part of the formula, as that part of present value based essentially upon the anticipated, continuous enhancement in the annual net return in the future. As a matter of fact, the "a" in the formula is as much a conjecture as is the "i"—it rests on the assumption that current net rental levels will be maintained indefinitely in the future. This formula also assumes that the "i" continues indefinitely in the future. It also assumes a rate of interest. What rate shall be selected? The rate of interest on first mortgages appears to be a logical choice since it seems to be a closely comparable and competitive alternative and probably is the commonly accepted "going rate" present in farmers' thinking when they consider rates of return on land in their respective communities.<sup>5</sup> In any case, it is a useful yardstick against which to

Another assumption which this formula involves is that the interest rate remains unchanged. It is obvious that an average annual increment (or decrement) in net land income continuing indefinitely in the future may be based on a rather generous assumption, although, of course, the more distant the income the less it weighs in present value. For such conditions, as well as other limitations into which at this time we cannot enter, formula modifications and adjustments need to be made.<sup>6</sup> However, for working purposes, and as the expression of a rather basic concept, the assumptions in the

<sup>5</sup> For example, for incomes increasing (or decreasing) for  $n$  years, then remaining constant, the formula is  $V = \frac{a}{r} + \frac{i}{r^2} \left( i - \frac{i}{(i+r)^n} \right)$ .

(See Karl Scholz, "The Determination of Reasonable Market Prices of Speculative Investments," *The Annalist*, Jan. 3, 1930, p. 5). In practice, cases of perpetually decreasing net incomes would, of course, be rare, although situations which involve carrying decreases beyond zero into net losses are not so rare.

<sup>5</sup> Chambers, *op. cit.*



formula do not appear to be so untenable as to invalidate this mathematical expression as a most useful approach toward a better understanding of the composition of farm real estate values.

#### EARNING POWER AND VALUATION IN PRACTICE

What can be said of the much-mentioned question of income and its place in practical valuation? In general, it may be said that to date, at least under the conditions existing in this country, attempts to arrive at values through income have met with rather disturbing difficulties. As a rule, income has played a minor part or no part at all, so far as actual valuation is concerned. Strictly speaking, valuation on the basis of income is seldom found in this country in the farm real estate field. That does not mean, of course, that farm real estate values have nothing to do with income, or that American appraisal practice today completely ignores income. However, income seems to be considered only to answer the question, "Will the income from the place be sufficient to cover interest and principal payments?" The answer is usually sought in the results of the previous years' operations as furnished by the applicant and verified by the loan company's examiner, although very recently a few mortgage bankers have gone further and have required complete financial statements from their borrowers. Nor can we say that an income valuation basis may not be developed. Because of the basic importance of income in farm real estate values we need to give that subject all the study we can. But, in the last analysis, a farm probably will be considered to be worth what it will bring on the market, and in this country where we normally have a comparatively free and active market for farm

lands sale price will probably continue to be used as the final test.

It is probably necessary only to mention very briefly some of the difficulties which have so far been encountered in trying to establish values on farm real estate indirectly through income. One of the difficulties is in getting accurate income data. A mistake of only fifty dollars, for example, capitalized at five per cent, means one thousand dollars in valuation. Few farmers keep books, and estimates are subject to wide errors, as all who have worked with farm survey figures know. A second difficulty is that income varies so much with management, and evaluation of the contribution of management still remains an unsolved problem. Capitalization of management into land values is, of course, a doubtful practice. In the third place, it is sometimes rather difficult to define what the capitalizable income shall be, and how to compute it. For example, how shall the contribution of the farm to family living in the way of food, fuel, and house rent be valued? How shall the value of the operator's labor be satisfactorily determined? How shall the family labor be valued? In the fourth place, what interest rate for capitalization purposes will be selected? Finally, farm real estate values apparently reflect the future. Ascertaining present incomes accurately enough for valuation purposes has been found hard enough. Forecasting accurately enough for valuation purposes what long-range future incomes will be is a pretty difficult matter.

#### CASH RENT

Although valuation through income at present appears to offer many difficulties, there is a line of income investigation which does appear to offer more immediate possibilities of useful



service. If a farm is worth what it will bring, so also is *one year's use* of the farm worth what it will bring on the market. This takes the form of cash rent. In some sections of the country there is enough competitive cash renting to give an index of what a year's use of the real estate is considered to be worth. These data, if systematically collected and compiled, would provide a most useful running barometer of the changes which are taking place in the land value structure. Furthermore, calculation for typical

areas of the  $\frac{i}{r^2}$ , granted that it can be

but an approximation subject to many qualifications, should prove of considerable use to those who control loan policies, for example.

Table II illustrates how wide may be the geographical variations in the  $\frac{i}{r^2}$ , and how large the  $\frac{i}{r^2}$  may be, or, to state it another way, how small may be that portion of present value upon which average net rents will pay the current average mortgage rates of interest. A fifty per cent loan where only thirty-eight per cent of the present value of the land is paying interest, so to speak, is one thing. A fifty per cent loan where ninety-four per cent of the present value is earning "interest" is another matter, assuming, of course, that there are no other risks to be offset. Perhaps the great variation in the composition of farm real estate values illustrated in Table II suggests one reason why some companies loaning on the customary fifty per cent basis in some sections of the country suffered greater losses than others loaning on

the same fifty per cent basis elsewhere.

The opinion is ventured that no single research effort would be of greater service at the present time than the development, on an adequate regional basis, of current indicators of the earnings of farm real estate and the changing relationship of farm real estate values to them. Nor should the obvious difficulties involved in estimating long-range future land income be taken to mean that research which seeks to define the future is wholly futile.

Forecasting cannot be escaped. Every time a man buys a farm or makes a loan, he makes a forecast, although he may not always fully realize it. The outlook for the "*a*" and "*i*" elements in the formula, at least in so far as to whether or not the prevailing expectations are likely to be realized, is a phase of the problem which merits more attention than has been given it in the past. Since we must guess, anyhow, we may as well try to make it a reasoned and a studied guess.

Finally, all the difficulties which have arisen in the way of determining what the capitalizable income is, and of valuing farm real estate on the basis of income as a practical procedure, are challenges rather than deterrents to further research. In the item alone as to what income is, for example, cash renting unfortunately is so uncommon in many important agricultural areas that other means must be used for attempting to get at the share of farm income attributable to the services of the real estate. This item alone raises many interesting questions both in theory and in practical application.



COMMERCIAL ARBITRATION  
A PRACTICAL PLAN

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# Commercial Arbitration: A Practical Plan

By JOHN R. ABERSOLD

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IN recent years there has been considerable criticism heaped upon the courts of the United States. This has chiefly resulted from the delays that litigants encounter in the pursuit of justice. It is not my purpose to delve into the causes of these delays. Much has already been written upon this subject. Admitting their existence, it is only natural to seek a remedy. There are two courses open to those so inclined. One is to reform legal procedure; another is to avoid it.

Starting with the assumption that misunderstandings in business dealings are inevitable, how may these misunderstandings be most satisfactorily settled by other methods than litigation? Many such methods have been advanced. Among them are mediation, conciliation, and commercial arbitration.

Some time ago the writer was requested to make a survey for the American Arbitration Association of the use of commercial arbitration in the State of Pennsylvania. This survey was completed in the fall of 1927. As it progressed, it was discovered that many business men knew little about this method of settling business disputes. This article, therefore, proposes to explain the meaning of commercial arbitration and its relation to business.<sup>1</sup>

<sup>1</sup> Much of the material here presented was collected during the survey mentioned. In addition, information obtained from the *1927 Year-book on Commercial Arbitration*, published by the American Arbitration Association, has been of value.

## AN ECONOMICAL DEVICE

The term "commercial arbitration" has come to mean progress in business. This is so because it provides business with a speedy and inexpensive method of settling disputes. Methods of saving time and expense are worthy of the consideration of every business man. Nevertheless, there are many persons engaged in business who have but a vague knowledge of the existence of arbitration, and do not understand how it works. In order to appreciate its advantages, it is necessary to understand the procedure and the form which it takes. The former has been so simplified by law that arbitration today is readily available to the average business man. The technicalities and the formalities of litigation are absent. Commercial arbitration has gone through a process of evolution for several hundred years, until today it is a simple, yet practical method for the settlement of business disputes.

Prior to 1920, the legal status of agreements to arbitrate was somewhat uncertain and the decisions of many courts were conflicting. Since that time there has been a growing demand for the uniform treatment of such agreements, as well as for the establishment of arbitration procedure upon a sound legal basis. Ten states and the Federal Government have responded by passing laws which provide the necessary legal sanction for the conduct of arbitration. The Pennsylvania Arbitration Act is a good example of the



thoroughness with which the legislatures have done their work. As nine other state acts are similar in almost all respects to the Pennsylvania Arbitration Act, this act may be regarded as embodying the essential legal requirements and the necessary machinery for carrying on arbitrations.

While American business men have been slow to realize the advantages of arbitration, British trade associations and business interests have for over a century used it with regularity, and with remarkable success. In the United States the American Arbitration Association in New York has been its chief exponent. Through the efforts of this organization, seventeen hundred American trade associations have established arbitral tribunals of their own. In fact, the popularity of commercial arbitration has been chiefly confined to trade associations in this country. The fact that it has not been more widely adopted is probably due to a lack of knowledge of its benefits.

### I

As used in this article, arbitration means the settlement of commercial disputes arising between business men and, as a rule, growing out of a contract existing between them. This form of procedure has been termed "commercial arbitration" in order to distinguish it from other types of arbitration, as well as kindred methods employed for similar purposes. Even when this method of settlement is referred to as commercial arbitration, however, it is often confused with other methods. It is, therefore, advisable to distinguish the various procedures employed in the settlement of disputes.

#### POLITICAL AND INDUSTRIAL ARBITRATION

Since the organization of the Hague Peace Tribunal, in 1889, much atten-

tion has been given to arbitration as a means of a peaceful settlement of disputes arising between nations. This type of arbitration is entirely political in nature. It concerns the rights of nations, states, or forms of government. Two nations, for example, become involved in a dispute over a boundary line. Such a dispute may well be submitted to arbitration. Many questions of a similar nature have been so dealt with in the past. The Permanent Court of Arbitration, established at the Hague Peace Conference in 1899, is devoted to this form of settlement.

Arbitration as used in this sense is, of course, entirely different from commercial arbitration. It is not the fact that the parties reside in different countries that creates the distinction. It is the fact that the nature of the dispute is different. The one is commercial, and arises out of a contractual relationship; the other is political in its nature. The parties to commercial arbitration may reside in different countries, and yet their dispute may very well arise out of their contractual relationship. For example, an American exporter of cotton in New York City may contract with an English cotton importer in Southampton to ship a certain number of bales of cotton. A clause in the contract may provide for resort to commercial arbitration in the event of a dispute. Although the scope of the agreement to arbitrate is international, in a sense, it is commercial in nature, in that it arises out of a contract.

Another form of arbitration which must be distinguished from commercial is that of industrial arbitration, which is solely concerned with the settlement of labor disputes arising between employer and employee. An employer operates a factory in which a large number of men are employed. The employees decide that they deserve a

shorter working day. Their demand is refused, and they strike. The employer, realizing the enormous loss that is caused by his idle factory, proposes arbitration. The employer and the officers of the labor union cooperate in choosing a third party, who is to hear the grievances of both sides and render a decision, upon which the factory may resume operation. This, too, is arbitration, but it differs in kind from commercial arbitration, in that it is solely concerned with questions arising between employer and employees in regard to wages, hours of labor, and conditions of employment.

#### LITIGATION, MEDIATION, AND CONCILIATION

Having distinguished commercial arbitration from political and industrial arbitration, it is necessary to show that there are other forms of procedure which attempt to settle disputes concerning contracts between business men. They are litigation, mediation, and conciliation. Of the three, litigation is by far the most widely used.

As the term conciliation is generally used, it does not refer to a specific method of settling a dispute, but implies an agency which attempts to eradicate the feeling of ill will and bitterness so often existing between the parties to a controversy. In recent years, conciliation has often been suggested by the judge in cases being tried before him. His remark to the opposing attorneys is often framed in some such manner: "Gentlemen, I would advise you to adjust this matter." Whereupon the attorneys attempt to effect a settlement. The result is usually a compromise. In this respect, conciliation differs greatly from commercial arbitration, which settles a dispute upon its merits and is in no sense a compromise. For this reason,

there are those who look with disfavor upon conciliation.

Mediation, generally speaking, means the intervention of a third party in a dispute between two contestants. This may be accomplished in one of several ways. The mediator may see two parties engaged in a controversy and intervene on his own behalf to attempt a settlement. Or, one of the parties may ask a third party, a mediator, to attempt a settlement of the dispute by means of a compromise. The mediator usually gains a settlement by means of bargaining with each party individually, until a point has been reached where both will agree to take and give a certain amount.

Mediation differs from arbitration in many ways. First, like conciliation, it results in a compromise, whereas commercial arbitration decides a case upon its merits. Second, the mediator is rarely appointed by both parties, whereas an arbitrator must be selected with the consent of both parties. Third, a mediator bargains with each party separately, while an arbitrator is not permitted to discuss the case with either party in the absence of the other. In other words, arbitration is not dependent upon the bargaining power of the arbitrator. Fourth, in mediation there is no necessity for a formal hearing of the parties, while in arbitration there must be a hearing with both parties in attendance and with the arbitrators sworn according to law. Finally, the result of mediation, that is, the final agreement, cannot be enforced at law without a special action brought to enforce it. In commercial arbitration in the states of New York, Massachusetts, New Jersey, Oregon, Pennsylvania and California, and also under the Federal Arbitration Act, the award of the arbitrators can be entered as a judgment upon the court record.

To sum up, it is important to note

that commercial arbitration is an extrajudicial procedure. It is adopted by the parties to settle, upon their merits and through a tribunal selected, by the parties themselves, commercial disputes arising between them out of a contractual relationship. It differs from litigation, in that it is not conducted under the direction of courts of law, but by a tribunal of the parties' own choosing, bound to conduct an impartial hearing. It is less formal, less costly, and more speedy in its results than litigation. It differs from both mediation and conciliation, in that it decides the issue on its merits and does not attempt to effect a compromise.

#### ORIGIN AND GROWTH OF COMMERCIAL ARBITRATION

Since the origin of any system of justice, legal, quasi-legal, or informal, is, after all, the agreement of disputants to submit their controversy to the judgment of a tribunal which they recognize, it is not surprising that historical research shows a number of prototypes of arbitration.

The origin of arbitration is somewhat doubtful, but there is sufficient evidence that it was in use among ancient races at least as far back as biblical times. It was prevalent among the Greeks in ancient Athens. In Rome, it was a recognized method of settling disputes at least from 450 B. C. to 530 A. D. Although Rome had one of the most highly developed legal systems of antiquity, it was common for a Roman magistrate or judge merely to fix the question of law upon which a dispute turned, and then to remit the dispute to an arbitrator who inquired into the facts and pronounced judgment in accordance with the ruling of the law. The Code of Justinian provided that there should be no appeal from an award after the lapse of ten days, and if there was no appeal within that time,

the party in whose favor the award had been rendered could have his remedy based on the award.

It seems that most early social institutions which had their beginning before the "Dark Ages" were lost sight of during that period. Arbitration, in like manner, made no progress and, in fact, was little used during that era. Not until the middle of the sixteenth century did it make an appearance on the continent of Europe. In the Hanseatic League of northern Europe arbitration was frequently used to settle disputes between merchants. Traces of this method have survived in modern times in Holland. Austria-Hungary recognized it in the Civil Code of 1781, which was later amended in 1868 so as to grant to various chambers of commerce the right to organize courts of arbitration to decide disputes arising out of commercial transactions.

Germany, too, was influenced by the system of amicable settlements, as is revealed by the laws and customs of that country. In 1879, the German Empire sanctioned arbitration procedure by establishing courts of arbitration in towns and parishes throughout the land. It was considered a high honor to hold a position of arbitrator in the German courts of that day. The arbiters had a wide jurisdiction, including matters of a commercial nature, as well as those relating to landed property and private interests. The system employed in Germany developed a defect, in that the arbiters were prone to decide issues in the form of a compromise rather than with the idea of adjudicating the rights of the parties involved.<sup>2</sup>

France has long recognized a system for the settlement of commercial disputes apart from the courts. As early as 1250, there existed official registers

<sup>2</sup> M. H. Grossman, *Commercial Arbitration*, p. 19.

or lists of persons engaged in different businesses who were available to act as arbiters in commercial disputes. In 1560, one hundred prominent citizens formed a body of their own to promote the settlement of commercial disputes. To this tribunal may be traced the origin of the *Tribunal de Commerce* which functioned successfully for many years in Paris. The French Revolution demolished the system of courts in France, but through it all these domestic tribunals for the settlement of commercial disputes seemed to survive and gain importance.

#### ARBITRATION IN ENGLAND

Arbitration took on a more definite and concise form in England. The English were, to a great extent, merchants and traders, and their country was for centuries a center of commerce and trade. It was found beneficial to adopt arbitration as a method of determining business controversies, since it enabled the merchants to dispose of such disputes in a speedy and inexpensive manner.

As England developed economically and controversies increased, the courts of law were found to be inadequate to handle all the cases. Furthermore, the courts were not spread over a sufficient area to enable merchants to reach them without considerable inconvenience. The sessions were both infrequent and irregular. The merchants, finding that the transient character of their trade prevented them from employing the law courts, devised a scheme of referring their disputes to the determination of certain of their fellow traders. Their fellow traders being experts in the business, the controversies were settled even more equitably by this method than by the procedure in the regular courts. These trade tribunals were called courts of *Pie Poudre*, an English mispronunciation of the French words

*pie* *poudre* (dusty foot). The court was so called because of the promptitude of its action. Men might come to it just as they were, without even stopping to brush the dust from their shoes.<sup>3</sup> Courts of this nature sprang up in numbers at the fairs and market places in early England.

Since arbitration was becoming so increasingly popular and since many agreements to submit to arbitration in the future were consummated, there soon arose the question of the power of one litigant to revoke the agreement to submit his dispute to arbitration. In 1609, Lord Coke decided this question, in the much quoted Vynior's case. The court held that, "A man cannot by his act make such authority, power, or warrant not countermandable which is by the law and its own nature countermandable." In other words, either party might revoke the agreement to arbitrate any time before an award was made. The arbitrator was considered as an agent of the parties, and therefore, according to the law of agency, the authority of that arbitrator could be withdrawn by either of the parties. The only remedy against a party's revoking an agreement to arbitrate was an action at law, on the ground of breach of contract to arbitrate. This remedy, however, was insufficient, inasmuch as the courts held that there was no damage sustained, since the correct arbitration decision could never differ from the correct legal decision.

#### OPPOSITION FROM ENGLISH JUDGES

The English judges of the early seventeenth century were opposed to arbitration, as they deemed it to be an encroachment on their jurisdiction, as well as a means by which they would be deprived of fees. Thus, they held that an arbitration agreement could not be

<sup>3</sup> E. P. Cheyney, *A Short History of England*, p. 200.



enforced unless the arbitrators had actually rendered an award before a revocation was attempted. In this respect, they dealt with agreements to arbitrate in much the same manner that courts today deal with certain types of voidable contracts. So long as the agreement was executory, it could be avoided; but once it became executed, it was binding. There is no logical reason why adults, with full capacity to contract, should not have the right to enter into a binding contract, supported by their mutual promises to arbitrate rather than to litigate their dispute. The only plausible reason that can be found is that the judges were jealous of any tribunal established to deprive the recognized courts of their powers.

It is interesting to note the zeal with which the courts guarded their jurisdiction. Two merchants who were desirous of settling their dispute by arbitration might enter into an agreement to do so, but either could revoke the agreement at any time before an award was rendered. To avoid this uncertainty, merchants would start an action at law upon the dispute, and then request the court to refer the case to arbitrators by means of a rule of court. This the courts would do, because they deemed the case as remaining under their jurisdiction because it was referred under a rule of court. In order to protect their jurisdiction still further, the courts ruled that either party was at liberty to revoke the authority of arbitrators before an award had been rendered, even though the case had been referred to the arbiters under a rule of court. When the courts had taken this stand, depriving other tribunals of irrevocable authority, there was only one avenue of escape open to those seeking arbitration. That avenue was Parliament.

Parliament, in 1697, passed a stat-

ute<sup>4</sup> which provided that a submission which specified that it should be made a rule of court could be entered on the court record, as a rule, and neither party could thereafter revoke the authority of the arbitrators. A revocation by either party after the entry of the rule amounted to contempt of court. This act of Parliament materially affected the common law rule concerning revocability of arbitration agreements. It remained the prevailing law upon the subject until 1833, when Parliament enacted another statute on the subject called the Civil Procedure Act of 1833.<sup>5</sup>

Under the provisions of this act, any submission to arbitration which specified that it should be made a rule of court could not be revoked without the consent of the court. The essential elements of a valid submission still continued to be an agreement to submit the dispute to arbitration and a provision specifying that the submission should be made a rule of court. If the parties failed to specify a rule of court, the agreement did not meet the statutory requirement and was revocable. This permitted revocation of submission on a mere technicality, with the result that Parliament cured the defect by the passage of the Common Law Procedure Act of 1854.<sup>6</sup> This act provided, in substance, that every submission in writing could be made a rule of court as long as it did not exhibit an intention to the contrary.

#### INFLUENCE OF THE CIVIL WAR

Arbitration agreements were now upon a safe legal footing, as the parties could rest assured that an agreement in writing to submit to arbitration could be made a rule of court and thus become irrevocable. The legal sanction

<sup>4</sup> 9 William III, ch. 15.

<sup>5</sup> 3 and 4 William IV, ch. 42, sec. 39.

<sup>6</sup> Sec. 17.



was provided for, but it remained for an event in America, the Civil War, to stimulate a widespread use of the procedure. With the American states at war with each other, many contracts for the sale of cotton from southern plantations to English merchants were broken. The courts in America were functioning at irregular intervals and the litigation of disputes of this nature was out of the question. As a result, arbitration was resorted to frequently. The Liverpool Cotton Association established an arbitration committee to pass on all questions in disputes between its members. Furthermore, a clause providing for arbitration of any dispute arising out of the agreement was inserted in every contract drawn by members of that Association. The Liverpool Cotton Association held a position of prominence in that market and its members feared expulsion if they revoked the agreement to arbitrate. This system of procedure proved to be very successful in the cotton industry. Other trades, observing its advantages, established similar committees. Arbitration became a firmly established practice in the cotton trade, the corn trade, the coffee trade, the oil seed trade, the flour trade, as well as in various coal exchanges, produce exchanges and stock exchanges.

In 1880, Parliament passed the Arbitration Act, which consolidated and revised the existing law of arbitration and provided a set of rules to govern the procedure in all cases where no agreement to the contrary was made by the parties. There are two main features of that law which characterize it. The first is that a submission to arbitration cannot be revoked, and that an award of the arbitrators may be enforced as a judgment of the courts. The authority of an arbitrator may be revoked by leave of court, which is granted in the event that an arbitrator

has an interest or bias in the dispute, or has been guilty of misconduct in the hearing of the case.

The spread of the arbitration movement was remarkable after the passage of this Act. It is said:

Today there is not a trade or professional organization in England that does not provide some means for the arbitration of disputes that arise among members or between members and others, and frequently between non-members engaged in similar work. It is not surprising, therefore, that by this means a great volume of litigation is avoided and commercial disputes kept out of court.<sup>7</sup>

#### DEVELOPMENT OF ARBITRATION IN THE UNITED STATES

When the colonists came over to America, courts were established by the English sovereign. These courts followed the common law of the parent country. Arbitrations were occasionally conducted in various trades, but these were governed by the common law of England which had as its basis Vynior's case, with its doctrine of revocability. Even after the Revolution, with the formation of the thirteen states, the common law principles of England were followed.

As early as 1705, the legislature of Pennsylvania passed an act recognizing arbitration. It provided for submission to arbitration of an existing dispute under a rule of court and sanctioned the award as a judgment. Pennsylvania was not the only state in which disputes were being settled by this procedure. As early as 1768, the Chamber of Commerce of New York City was established for the purpose in settling disputes between merchants of that city. It has taken great pride in the fact that since its establishment in colonial days it has constantly provided

<sup>7</sup> S. Rosenbaum, *Commercial Arbitration in England*, p. 15.

facilities for arbitration. Many states passed statutes from time to time, but these, as a rule, were merely reenactments of the common law principles of England, and naturally followed the rule of revocability decided in Vynior's case. The courts would not extend common law principles so as to make agreements to arbitrate as binding as a contract at law, nor would the equity courts grant specific performance. This required the parties to rely almost entirely upon each other's integrity in regard to the performance of the arbitration agreement. For some years previous to 1920 the New York State Chamber of Commerce, and associations of that state interested in the arbitration movement, prevailed upon the legislature to pass an act establishing arbitration on a sound legal basis, but not until 1920 was such a result accomplished. In that year the Walton-Martin Act<sup>8</sup> was passed, an event which sounded a note of success and achievement for the arbitration movement in the United States. Since 1920, mainly through the efforts of the American Arbitration Association, New Jersey,<sup>9</sup> Massachusetts,<sup>10</sup> Oregon,<sup>11</sup> Pennsylvania,<sup>12</sup> and California<sup>13</sup> have passed similar laws.

## II

With this brief historical survey, it is now possible to turn to the procedure of arbitration and examine its essential elements. The procedure in arbitration may be divided into four main parts: (1) the agreement; (2) the actual submission of the case to the arbitrators; (3) the award; and (4) the enforcement of the award.

<sup>8</sup> New York, Laws of 1920, ch. 275.

<sup>9</sup> New Jersey, Laws of 1923, ch. 134.

<sup>10</sup> Massachusetts, Laws of 1925, ch. 294.

<sup>11</sup> Oregon, General Laws of 1925, ch. 186.

<sup>12</sup> Act of April 25, 1927, P. L. 381.

<sup>13</sup> California, Code of Civil Procedure, 1923, ch. 225, as amended by Assembly Bill no. 460.

## OUTLINE OF PROCEDURE

It is first necessary that the parties enter into an agreement binding themselves to submit either an existing dispute, or a dispute arising in the future, to the decision of persons chosen by them. This is known as the agreement to arbitrate. Having made the agreement and a dispute having arisen, it is necessary for the parties to submit the dispute to the arbiters whom they have chosen. This step is called the submission. After the dispute has been submitted to the arbiters and the parties have presented their evidence, it becomes the duty of the arbiters to render a decision in the matter. This decision is called the award.

The award having been rendered, it becomes incumbent upon the successful party to enforce it. If the arbitration has been conducted in one of the states possessing an effective arbitration statute, a valid award may be entered as a judgment. If, however, the arbitration has been conducted under the common law, it becomes a more difficult problem. Under the latter circumstances, the successful party may first attempt to induce his opponent to abide by the award through good faith. If unsuccessful in this method, it becomes necessary for the person in whose favor the award has been rendered to start an action at law, with the award as a basis. If the award has not been procured by fraud or corruption, and is valid in other respects, a judgment will be rendered in his favor.

As has previously been stated, the common law rule concerning arbitration in the United States followed the common law rule laid down in Vynior's case. That resulted in the courts in all of the states holding that agreements to arbitrate could be revoked at any time by either party before an award had been rendered. In most of the

states, this was true even where the agreement named the arbitrators and provided that no action at law could be brought upon the dispute. Thus, even if the parties had waived in the agreement their right of action at law, the courts would not enforce the arbitration agreement. If, however, the parties had voluntarily submitted the dispute to the arbiters and an award had been rendered, then the courts would recognize the procedure, on the ground that it was executed, and would enforce the award if a separate action were brought upon it.

In Pennsylvania the decisions regarding agreements to arbitrate under the common law were considerably confused. The courts attempted to distinguish between agreements to arbitrate existing disputes and agreements to arbitrate disputes which might arise out of the breach of the contract at some future time. Another phase of the confusion dealt with agreements in which arbiters were named and those in which they were not named. A distinction was also drawn between agreements in which arbitration was made a condition precedent to bringing an action at law and those agreements in which no such provision was specified.

In short, practically the only type of agreement to arbitrate, which under the common law was held to be irrevocable, was one in which the parties had voluntarily submitted an existing dispute to the arbitrators and an award had resulted before either party attempted to revoke the submission. Under the common law decisions, the only manner in which the award once obtained could be enforced, other than by the willingness of both parties to abide by it, was by means of an action at law being instituted with the award as its basis. To say that the status of arbitration agreements at common law was highly unsatisfactory is to state it

mildly. Not only was this the situation in Pennsylvania, but in all states in this country.

#### ARBITRATION STATUTES EXISTING BEFORE 1920

Prior to 1920 many states had passed statutes concerning agreements to arbitrate. These acts followed the English statutes by providing that agreements to arbitrate be made a rule of court. Excellent examples of the number and the types of statutes passed by state legislatures are those of Pennsylvania. In that state, statutes dealing with one form or another of arbitration were passed in 1705, 1806, 1808, 1810, 1813, 1820, 1824, 1825, 1836, 1840, 1845, 1846, 1847, 1848, 1850, 1852, 1861, 1874, and 1877.

The Pennsylvania Act of 1836 was a codification and refinement of all previous Pennsylvania statutes upon the subject. Although eleven acts slightly amending that of 1836 were passed between the years 1836 and 1927, the latter remained the statutory law in Pennsylvania upon the subject until what is known as the Uniform Arbitration Act was passed on April 25, 1927.

A brief analysis of the Act of 1836 will serve to show the legal status of agreements to arbitrate in this country before the statutory law was made to conform to that of England. The Act of 1836 had two main divisions. The one provided for voluntary arbitration; the other for compulsory arbitration. By voluntary arbitration is meant the settlement of a dispute by arbitrators, where the parties have signed a written agreement voluntarily agreeing to arbitrate. By compulsory arbitration is meant the settlement of a dispute by arbitrators, where the parties have never agreed to arbitrate. In other words, in compulsory arbitration one party who desires to arbitrate may compel the other to submit a dispute to

arbitrators, even though the latter has never agreed to arbitrate.

The Pennsylvania statute of 1836 in regard to voluntary arbitration was quite similar to statutes of other states. No other state, however, possessed a compulsory arbitration statute. Due to the similarity of the voluntary arbitration provisions of the Pennsylvania statute with other state statutes, it is therefore logical to discuss that phase first.

To sum up the main features of the voluntary arbitration provisions of the Act of 1836, it is important to note, first, that there were two types of disputes for which provision was made. One was the voluntary submission by consent of both parties of a suit entered in court. The other was the voluntary submission of a dispute which had not reached the stage of litigation.

In the case where the parties wished to arbitrate a suit already in court, they were required mutually to agree to submit the matter involved in the suit to arbitration, naming the arbitrators. They were also required to specify in the agreement that their submission should be made a rule of court. After an agreement of this nature had been entered into, the court would issue a rule providing that the parties should submit to, and be bound by, the award of the named arbitrators. In this type of case, matters of fact were subject to arbitration, whereas matters of law were reserved for the court. When the arbitrators made their award, it was deemed and taken to be as available in law as a verdict of the jury. The party in whose favor the award had been made was entitled to have a judgment rendered thereon, and the process for its recovery was the same as on a verdict rendered by the jury. It followed that all motions or appeals which would be available in case of a jury verdict would be available after an

award had been rendered. In other words, the arbitrators in a voluntary submission of a case in litigation practically took the place of a jury.

#### VOLUNTARY SUBMISSION OF NON-LITIGATED DISPUTES

The second type of voluntary arbitration procedure provided by the Act of 1836 dealt with existing disputes which had not been filed in a court of law. The first step prescribed by the Act was a written mutual agreement of the parties to submit the dispute to arbitration and contained the names of the arbitrators who were to officiate. This agreement had to contain a stipulation that it should be made a rule of court and that the parties should submit to, and be finally bound by, the arbitration. Upon due proof of the agreement shown to the court, it became the duty of the court to issue a rule of reference. This brought the dispute within the court's jurisdiction in a manner similar to that in the other type of voluntary arbitration. The arbitration was then conducted and the award rendered by the arbitrators. Under this type of voluntary procedure the award could be set aside if it was found: (1) that the arbitrators, or umpires, misbehaved in the case; (2) that they committed a plain mistake in a matter of fact or a matter of law; or (3) that the award was procured by corruption, fraud, or other undue means.

The preliminary requirements for voluntary arbitration under the Act of 1836, therefore, were that there should be an existing dispute, that arbitrators should be definitely named in the agreement, and that the matter should either be in court by a suit or must be brought within the jurisdiction of the court by means of the entry of a rule of reference. It should also be noted that an award in a voluntary arbitration procedure under the Act of 1836 could



be appealed from, on the ground of a mistake of fact or a mistake of law made by the arbitrators. This was an inherent defect in the arbitration law of Pennsylvania, as it afforded the defeated party a means of prolonging final settlement by appeals. The very purpose of arbitration was thereby often defeated.

Another striking defect of the Act of 1836 was its failure to provide for arbitration of future disputes. In other words, an arbitration clause inserted in a contract to be performed in the future was not binding upon either party. Frequently a party who had agreed to arbitrate any dispute which might arise under a contract was unwilling to carry out his agreement after such a dispute had actually taken place. The law did not require him to do so.

#### COMPULSORY ARBITRATION UNIQUE FEATURE

As has already been briefly explained, the Act of 1836 is unique in its provisions for compulsory arbitration. Under them, either party to a civil suit may enter a rule of reference wherein he declares his intention to have arbitrators chosen to determine the matters at issue. The other party to the suit is thereupon compelled to accept arbitration. The plaintiff cannot file such a rule until he has filed and served his declaration or statement, nor can the defendant do so until he has filed an affidavit of defense. Such a rule is entered on the record, served on the opposite party, and a time fixed for the appointment of arbitrators. It is to be noted that compulsory arbitration applies only where a dispute is actually in court.

When the award of the arbitrators is entered in the proper docket by the prothonotary it has the effect of a judgment, but may be set aside by the

proper court on proof that the arbiters misbehaved, or that the award was procured by corruption or other undue means. Appeals can always be taken to the court, on the simple allegation of the appellant that the appeal is not taken for the purpose of delay, but because he verily believes injustice has been done. This, in effect, permits an appeal from every award.

To sum up, therefore, compulsory arbitration is available only where a suit has been actually instituted in court. The result is not final, being appealable on the mere allegation that injustice has been done. This statute provided, however, that compulsory arbitration should not apply to actions brought in the courts of the city and county of Philadelphia.

### III

There has been a tendency for some years to adopt uniform laws in the several states, as has been evidenced by the passage of the Uniform Negotiable Instruments Act, the Uniform Sales Act, the Uniform Stock Transfer Act, and others. In like manner, the movement has spread by the adoption of a Uniform Arbitration Act. The purpose of the uniform arbitration legislation has been two-fold. First, to obtain legislation in all the states which would provide a method to enforce arbitration in contracts containing an arbitration clause, and thereby make an arbitration agreement irrevocable. Second, to obtain uniformity throughout the states in regard to the enforceability of such agreements and the procedure to be followed in the conduct of arbitration.

#### NEED FOR UNIFORM ARBITRATION ACT

Unsuccessful attempts were made for many years to obtain the passage of such legislation. In 1920, the State of New York passed the Walton-



Martin Act. To the united effort of the American Arbitration Association, the New York Chamber of Commerce, and the New York Bar Association should go the credit for the accomplishment of the passage of this piece of legislation. With the barrier broken, the success of the movement spread. Largely as a result of the efforts of the American Arbitration Association, the states of New Jersey,<sup>14</sup> Oregon,<sup>15</sup> Massachusetts,<sup>16</sup> and California<sup>17</sup> have adopted arbitration laws which are uniform and comprehensive in their provisions.

Bills providing for similar effective arbitration laws were introduced into the 1929 legislatures of Arizona, Colorado, Connecticut, Indiana, Louisiana, Maine, Maryland, Nebraska, New Hampshire, Ohio, Rhode Island, and Texas. Five of these states, Arizona, Connecticut, Louisiana, New Hampshire, and Rhode Island, had passed these bills at the time this article was finished.

Inasmuch as commercial transactions frequently take place between persons residing in different states, a need has long been felt for a Federal act dealing with the subject of arbitration. Until recently there has been no law authorizing the arbitration of matters pertaining to interstate commerce and maritime transactions. In 1925,<sup>18</sup> such an act was passed as a result of the efforts of the American Arbitration Association, the New York Chamber of Commerce, and the American Bar Association.

Opposition to arbitration did not succumb with the passage of enforceable laws. A case<sup>19</sup> testing the con-

stitutionality of the New York Arbitration Act was taken to the Court of Appeals of New York, in 1921, and that Court held the Act to be constitutional. A similar case was also taken to the Supreme Court of the United States by opponents of arbitration, but to no avail, as the Supreme Court held that the state has the power to confer upon its courts the authority "to compel parties within its jurisdiction to specifically perform an agreement for arbitration."<sup>20</sup> This decision did not extend beyond the constitutionality of the state acts, but there is no apparent reason why a different view should be taken by the Supreme Court of the United States if the constitutionality of the Federal Arbitration Act ever came to issue.

In view of the fact that five states had passed uniform arbitration acts, the time was seemingly at hand to introduce a similar act in the legislature of Pennsylvania. Through the efforts of the American Arbitration Association, the Pennsylvania State Chamber of Commerce sponsored the bill and succeeded in obtaining its passage. Governor Fisher signed the Act on April 25, 1927.

#### THE PENNSYLVANIA ACT

The title of the new Pennsylvania Arbitration Act is as follows:

An Act concerning arbitration and to make valid and enforceable written provisions and agreements for the arbitration of disputes in certain contracts, including contracts to which the state or any municipal subdivision thereof may be a party, regulating the procedure under such provisions and agreements and conferring certain powers and imposing certain duties upon the courts with reference thereto.

*Section 1. A written agreement to arbitrate is valid and irrevocable. This*

<sup>20</sup> *Red Cross Line v. Atlantic Fruit Co.*, 264 U. S. 109.

<sup>14</sup> Laws of 1923, ch. 134.

<sup>15</sup> General Laws, 1925, ch. 186.

<sup>16</sup> Laws of 1925, ch. 294.

<sup>17</sup> Code of Civil Procedure, 1923, ch. 225, as amended by Assembly Bill no. 460.

<sup>18</sup> Act of Feb. 12, 1925.

<sup>19</sup> *Matter of Berkovitz v. Arbib and Houlberg*, 230 N. Y. 261.

section provides that a provision in any written contract, except a contract for personal services, to settle by arbitration a controversy thereafter arising out of the contract, or a written agreement between two or more persons to submit to arbitration any controversy existing between them, shall be valid, irrevocable, and enforceable. An exception is made, however, that in case the contract has been entered into under such conditions that of itself it would be invalid in law or in equity, it in like manner shall be invalid under this Act. A further provision appears in this section that in no case shall a person be eligible to act as an arbitrator if he is regularly employed by any party to the controversy, regardless of whether or not the contract so provides.

By the wording of this section, all the confusion and conflict regarding the revocability of agreements to arbitrate under the statutory, as well as the common law, is eliminated. Written agreements to submit to arbitration either an existing or a future dispute among the parties are now valid, irrevocable, and enforceable. The provisions of this section further make it unnecessary for the parties to take out a rule of reference, as was formerly necessary. Nor is it now necessary that the arbitrators be named in the agreement in order that the agreement be irrevocable. A further discussion of this point appears under section 4.

*Section 2. A stay of proceedings may be had in case of violation of the arbitration agreement.* In the event that a party disregards the written agreement to arbitrate and starts an action upon the issue, the opposite party may petition the court in which the action has been started for a stay of proceedings. It then becomes the duty of the court to determine whether or not the action is in violation of the

arbitration agreement. If so found, the court must stay the proceedings until arbitration has been conducted. By this provision, it is impossible for either party to defeat the arbitration of an issue by bringing a similar action at law—a common practice employed to evade arbitration under the rules of the common law.

*Section 3. Aggrieved party may petition court to have arbitration enforced.* The party aggrieved by the failure, neglect, or refusal of another to perform under a written agreement to arbitrate may petition the Court of Common Pleas of the county having jurisdiction for an order to show cause why the arbitration should not proceed in the manner provided for in the agreement. A notice of the application to the court must be served upon the party in default at least five days before the day appointed for the hearing on the rule. Several situations may arise at this hearing, and they are amply provided for in this Act. First, if the making of the arbitration agreement is not in issue, then the court must inquire why the arbitration has not been complied with. Upon a finding by the court that the party filing the rule to show cause is not at fault, the court must order the arbitration to proceed. In the event that the court finds at fault the party who has taken out the rule to show cause, the court must dismiss the rule and the agreement to arbitrate is not enforceable. A jury trial may be demanded to ascertain if either party has been at fault, but if no jury trial is demanded the court is empowered to proceed summarily to determine such issue.

Second, if the making of the arbitration agreement is disputed, the court is authorized to proceed summarily to the trial of that point, unless a jury trial is demanded. If the court—or jury, in case a jury trial is demanded—

finds that no written agreement to arbitrate was made, the proceedings should be dismissed. If, however, it is found that a written agreement to arbitrate was entered into by the party, and that there has been no default in the proceedings by the party filing the rule to show cause, the court should order the parties to proceed with the arbitration in accordance with the terms of the agreement.

The provisions of this section enable the aggrieved party to compel the party in default to show reason why the arbitration should not proceed. Such a provision greatly aids the enforcement of an agreement to arbitrate, especially since authority is given to the courts to order the arbitration to proceed if the agreement is a valid one and the party demanding the arbitration is not at fault. In like manner, the provisions of this section also afford a remedy to the party who is contesting the arbitration, on the ground that the agreement is not a valid agreement or that the party who has taken out the rule has been at fault and, therefore, is not deserving of the proceeding.

*Section 4. The method of appointment of the arbitrators.* If the arbitration agreement provides a method of naming or appointing the arbitrators, it is to be followed. In the event that no method is provided for in the agreement, or if the parties cannot agree as to who the arbitrators shall be, the court, upon application of either party to the controversy, is empowered to designate the persons to act as arbitrators. Unless otherwise provided for in the agreement, the court is empowered to name one arbitrator who shall conduct the hearing and make the award. In case one or more arbitrators die, or are disqualified, before the submission of the case and the parties cannot agree to fill the vacancy, then the court is entitled to name the person or persons

to fill the vacancy. If one of the arbitrators dies, or if for some reason becomes incapacitated after a partial submission of the matter in controversy to the arbitrators, then, unless the parties agree to proceed with the remaining arbitrators, or agree upon arbitrators to fill the vacancy, the arbitration shall be considered void and the parties must proceed *ab initio*.

This section is very helpful in the enforcement of an agreement to arbitrate, as it provides an efficient method of naming arbitrators in the event one party refuses to perform his duty. Under the rules of the common law and also under the voluntary arbitration statute, there was no means provided to compel a party to proceed with an arbitration unless the arbitrators were definitely named in the agreement. Furthermore, it is not always advantageous to name an arbiter without knowledge of the type of dispute that may arise. Therefore, this section is extremely helpful.

*Section 5. The courts are empowered to make rules concerning arbitration procedure.* This section gives the respective courts of common pleas the power to make and to adopt rules concerning the procedure and practice under this Act as shall seem proper to them. However, no rule can be made contrary to the express provisions of this Act. The writer is somewhat skeptical about the advantage to be gained from this section. It does not seem as well calculated to obtain uniformity in the practice to be adopted throughout the state as would be gained if a definite set of rules were adopted for the entire state. It is hoped that in practice confusion will not crop up as a result of this provision.

*Section 6. Method for compelling the attendance of witnesses and the manner in which testimony is to be*

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taken. The arbitrators are empowered to summon in writing any person to attend before them as a witness, and, in a proper case, to bring along any book, record, or document, which may be deemed material as evidence in the case. The summons is to be issued in the name of the arbitrators, and is to be served in the same manner as a subpoena to appear and testify before a court. In the event that any person so summoned refuses to obey, upon a petition to the court of common pleas of the county in which the arbitrators are sitting, the court, upon proof that the testimony is proper and necessary, may compel the attendance of such person before the arbitrators or punish him for contempt of court. This section provides that the fee of a witness attending an arbitration proceeding shall be the same as the fee of a witness in a court of general jurisdiction.

A further provision of this section stipulates that when more than one arbitrator is agreed to by the parties all the arbitrators must attend the hearing, unless by written consent the parties agree to a smaller number. This provision definitely specifies that all the arbitrators must attend, and thus clears up a point that led to confusion under both the rules of the common law and the previous arbitration acts.

This section also provides that all testimony must be taken under oath or affirmation, and shall at the request of either party or of the arbitrators be taken stenographically and made a part of the record. It would seem to the writer that it might have been better to leave to the parties the decision concerning the taking of testimony under oath. From information obtained from trade associations, it seems that the parties to the proceedings often desire to waive this formality. As the Act now reads, it is error

if the oath is not administered to each witness.

*Section 7. When depositions may be taken.* If a party petitions the arbitrators to permit the taking of testimony of one or more witnesses by means of a deposition, and the petition is approved, the courts may direct the issuance of the necessary deposition.

*Section 8. The number of arbitrators necessary to render an award.* In order for the award to be valid, it must be in writing and signed by a majority of the arbitrators. In case there are more than two arbitrators, an award requires the concurrence of a majority of them, but unanimous concurrence is necessary where there are but two arbitrators selected by the parties. It is also necessary, in order to have a valid award, that a signed copy be sent to each party to the arbitration. There has been some conflict in the decisions of this state as to the number of arbitrators that had to concur before a valid award could be rendered, but under this Act that point cannot arise.

*Section 9. The manner in which an award may be confirmed.* At any time within one year after the award has been rendered any party to the arbitration may apply to the court having jurisdiction for an order confirming the award. The court is duty-bound to confirm the award unless it is vacated, modified, or corrected, as prescribed in the next two sections. The party desiring the confirmation must serve notice upon the adverse party at least five days before the date set for the hearing. This section makes it necessary for the party in whose favor the award has been made to confirm it within a year from the date of its rendition, and thereby conclude the issue. Before the passage of this Act, it was possible for an award to drag along for an indefinite period before an effort could be made to have it enforced.



*Section 10. Grounds for vacating an award. When the court may grant a rehearing.* In either of the following cases, the court may order the vacating of the award upon application of any party to the arbitration: (a) where the award was procured by corruption, fraud, or undue means; (b) where there was evident partiality or corruption on the part of the arbitrators or any of them; (c) where the arbitrators were guilty of misconduct in refusing to postpone the hearing when sufficient cause for its postponement had been shown; also, where the arbitrators have refused to hear evidence pertinent and material to the controversy, or any other misbehavior by which the rights of any party had been prejudiced; (d) where the arbitrators exceeded their powers, or so imperfectly performed them, that a mutual, final, and definite award upon the subject matter submitted was not made.

In the event that an award is vacated and the time within which the agreement required the award to be rendered has not elapsed, the court may in its discretion direct a rehearing by the arbitrators.

As has been pointed out in the discussion of arbitration procedure, under the rules of the common law and the statutory law the courts have held that it was necessary that one of the parties should be involved in the corruption with an arbitrator before there was sufficient ground to set an award aside on the ground of corruption. This peculiar ruling of the courts was distinctive to Pennsylvania. Under the new Act that doctrine is overruled. The provision made by this section for a rehearing where there is sufficient time remaining is helpful, as it affords the parties a second opportunity to have men of their own choice decide their dispute.

*Section 11. Grounds for a motion to*

*modify or correct an award.* In any of the following cases the court may order a modification or a correction of an award, upon the application of any party to the controversy: (a) where there was an evident material miscalculation of figures, or an evident material mistake in the description of any person, thing, or property referred to in the award; (b) where the arbitrators have awarded upon a matter not submitted to them—if, however, it is a matter not affecting the merits of the decision, then the correction cannot be made; (c) where the award is imperfect in a matter of form not affecting the merits of the controversy; (d) where the award is against the law and is such that, had it been a verdict of the jury, the court would have entered a different judgment, notwithstanding the verdict.

In any of these cases the court may modify and correct the award, or resubmit the matter to the arbitrators.

Up to this section, the new Pennsylvania Arbitration Act is almost identical with the Uniform Arbitration Acts of New York, New Jersey, Massachusetts, Oregon, and California, and in principle it is similar to the Federal Arbitration Act. However, the provision in this section, which allows an appeal to the court upon the ground that the award is against the law, is very different from any of the provisions in the above mentioned laws. In those jurisdictions, an appeal is not permitted for a mistake of law or fact.

At first thought, it might seem that too great a latitude is given to the arbitrators if their award cannot be appealed from, even though a mistake of law had been made by them. However, an examination of section 17 reveals that the parties or the arbitrators, or both, have an opportunity to prevent errors of law arising in the award by taking advantage of the provisions



of the Declaratory Judgments Act, allowed in that section. In other words, either of the parties or the arbitrators may petition the court to rule upon questions of law arising in the course of the proceedings. The courts are bound by section 17 of the Act to decide questions of law submitted to them by the arbitrators; thus, it is possible to prevent to a marked degree the possibility of errors of law arising in the award.

With this in mind, it seems that the new Pennsylvania arbitration law enables a dissatisfied party to delay a final settlement of the case upon an allegation that the award is "against the law." Even though upon determination of the appeal by the courts he may be unsuccessful, he has, nevertheless, succeeded in delaying a final settlement. This was one of the main contentions against the use of the Act of 1836, as expressed by attorneys throughout the state.

*Section 12. How a judgment may be entered upon an award.* Upon the granting of an order confirming, modifying, or correcting an award, judgment shall be entered by the court in which the order upon the award was made. Under the rules of the common law, it was necessary for the party in whose favor the award was rendered to start an action in court to have the award made a judgment. This situation meant delay, necessitated by awaiting a turn upon the trial list. Under the new Act the motion for confirming the award is heard upon the next motion day and, if confirmed, judgment is immediately entered by the court.

*Section 13. Notice of motion to vacate, modify, or correct an award must be filed within three months.* A notice of a motion to vacate, modify, or correct an award must be filed in the prothonotary's office of the court in which the application is made, and a

copy of this notice must be served upon the adverse party within three months from the date the award has been filed. In all proper cases, the court is empowered to grant a stay of proceedings pending the determination of the motion.

The provisions of this section are an aid to a speedy determination of the case, since they prevent a dissatisfied party from appealing after three months have elapsed from the rendition of the award.

*Section 14. Provisions for filing of the records of the case—effect and enforcement of the judgment.* This section provides that any party to a proceeding for an order confirming, modifying, or correcting an award must, at the time such order is filed with the prothonotary for the entry of the judgment, also file the following papers with the prothonotary: (a) the agreement of the parties to arbitrate; the selection or appointment, if any, of an additional arbitrator or umpire, and each written extension of time to make the award; (b) the testimony, if taken stenographically; (c) the award; (d) each notice, affidavit, or other paper used upon an application to confirm, modify, or correct the award, and a copy of each order of the court upon such application.

A provision is made in this section that the arbitration shall be docketed in the prothonotary's office as if it were an action at law, with the moving party as plaintiff and the other party as defendant. A provision is also made that the judgment so entered is to have the same force and effect as a judgment in an action at law, and it may be enforced as such in accordance with the existing law.

The purpose of this section is to provide adequate means for the recording of all necessary papers employed in the arbitration proceeding so that a complete record of the case will be available

in case of an appeal. Incorporated in this section is the provision that a judgment obtained in an arbitration is just as effective as a judgment obtained in any action at law and can be enforced in the same manner.

*Section 15. Appeals.*

An appeal may be taken from an order confirming, modifying, correcting, or vacating an award, or from a judgment entered upon an award in accordance with the existing law in respect to appeals to the Superior and Supreme Courts.

*Section 16. State and municipal contracts are included in the provisions of the Act.* The provisions of this Act apply to any written contract to which the Commonwealth of Pennsylvania, any subdivision thereof, or any municipal corporation of the Commonwealth, is a party. This section is important, since it provides a means whereby the Commonwealth of Pennsylvania may be compelled to arbitrate a dispute arising out of a contract containing an arbitration clause, if it is a party thereto. Hitherto, the Commonwealth could not be compelled to live up to an arbitration agreement unless the attorney general consented.

*Section 17. When an application may be made for a declaratory judgment.* This section provides that the arbitrators, or the parties to the arbitration, with the approval of the arbitrators, have the right to apply to the court at any time during the arbitration proceedings for the determination of any legal question, in accordance with the terms of the Uniform Declaratory Judgments Act. An application of this nature, however, does not operate as a stay of proceedings unless the arbitrators give their consent.

This section was made a part of the Act, in order to permit the parties or the arbitrators to obtain the benefit of a ruling of the courts upon questions of

law which are not clear to the arbitrators. Many appeals upon errors of law may be prevented if the opinion of the courts is sought by the arbitrators. Under this section the desire of the parties themselves is not sufficient to have legal questions determined by the courts, as the phraseology of the section provides that the approval of the arbitrators must be had in order to take advantage of the Uniform Declaratory Judgments Act.

The reason for the required approval of the arbitrators in such a case is evidently the fact that an appeal is allowed under section 11 (d) in case an error of law was made by the arbitrators. If section 11 (d) were omitted, it appears to the writer that it might be possible to have an award vacated under section 10 (c) if the arbitrators refused to permit a question of law to be referred to the courts. The language of section 10 (c) is quite strong, as is evidenced by the following quotation:

The court shall make an order vacating the award upon the application of any party to the arbitration. (c) . . . or any other misbehavior by which the rights of any party have been prejudiced.

*Section 18. Definitions.* This section provides as follows:

Wherever the word "arbitrators" is used in this Act, it shall mean a single arbitrator, if there be but one, or at least a majority of the arbitrators, if there be more than one.

Except as otherwise specifically indicated, all references in this Act to the courts are to be construed to mean the Common Pleas Courts of the county having jurisdiction of the parties or the subject matter. If prior to the award any Court of Common Pleas shall have entertained any motion in respect to said arbitration, such court shall retain jurisdiction and all subsequent proceedings shall be filed in said court. If there be no proceedings prior to the award the arbitrators may in the award designate the county in which subsequent

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proceedings shall be had. If the arbitrators fail to designate such county, and there shall have been no prior proceedings, the moving party may proceed in the county in which (a) the arbitrators made their reports, or (b) the county in which the other party resides or has an office, or (c) the county in which the court would have jurisdiction if an action had been instituted originally in respect to the subject matter of the arbitration.

*Section 19. Inconsistent acts repealed. Time of taking effect.* The new Pennsylvania Arbitration Act repealed all acts and parts of acts inconsistent with it. The legislature provided that the new Act should take effect upon its enactment, which was April 25, 1927, the day that Governor Fisher signed it. It has no application, however, to any contract made before the date of its enactment. The last provision of the Act specifies that in case any part of this Act is declared to be invalid or unconstitutional, the remaining parts are nevertheless to remain the valid Act of the legislature.

In concluding, it may be said that the new Pennsylvania Arbitration Act is in strict accord with other Uniform Arbitration Acts, as well as with the Federal Arbitration Act, except in three instances. The first, and by far the most important difference, lies in the question of the right to appeal upon an error of law. The Pennsylvania Act allows such appeal, while the other modern and comprehensive acts do not permit it. This is a vital difference, and from the standpoint of effective arbitration it would seem to make the Pennsylvania Act somewhat inferior. The two other differences are not so important. The first is, that under the Pennsylvania Act the Common Pleas Courts of the various counties are permitted to make their own rules of procedure, so long as they do not directly violate the express provisions of

the Act. In the other states above referred to, the rules of court dealing with arbitration procedure are the same throughout the state. Uniformity of rules of court naturally tends to prevent confusion, and would seem to simplify the form of procedure. The last difference is a very minor one. Under the new Arbitration Act of Pennsylvania, it is provided, as has been pointed out, that the testimony must be taken under oath, while in the other jurisdictions previously referred to it is possible for the parties to waive this formality.

It is a relief to feel that at least a great deal of the confusion existing in the common law concerning the revocability of agreements to arbitrate in Pennsylvania will be removed in the future as a result of this new and comprehensive piece of legislation. The writer also feels assured that as a result of the new Act a marked stimulus has been given to arbitration conducted by the trade associations.

#### IV

Much comment has been made recently regarding the undue delay encountered in bringing an action in a court of law. As a result, persons who otherwise might have litigated their disputes have resorted to arbitration. Since this article was to be mainly concerned with the arbitration of commercial disputes arising out of contracts, a survey was made of the length of time involved in litigation of assumpsit actions.

#### DELAYS IN LITIGATION

This survey includes data obtained from three counties in the State of Pennsylvania—Philadelphia, Allegheny, and Dauphin. In each of these counties, the clerk of the Common Pleas Court keeps a docket in which is entered a complete record of

the procedure of each case, with a caption showing the number of the case and the type of action involved. These dockets were examined, and one hundred actions of *assumpsit* were selected at random in each county to be studied in a more detailed manner. These cases had gone to trial before a jury and a verdict had resulted.

The fact that a verdict has been rendered by a jury does not, of course, always end the litigation of a case. A motion may be made for a new trial, and the motion is heard at a future date by the judge who tried the case and one or more judges of the same court sitting *en banc*. In that case, one month generally elapses before the argument on the motion is heard. After the motion has been argued, the court usually does not announce the decision until another month has passed.

If a new trial is granted, the case is again put on the trial list and awaits its turn to be tried. If the motion for a new trial is refused an appeal may be taken to the Superior or the Supreme Court, with the result that more time is consumed. Should the Appellate Court decide that a new trial is proper, the case goes back to the lower court to await its turn upon the trial list. There is no limit to the number of times that a case may be appealed and sent back for a new trial if errors have been made in the trial of the case. The natural result is that much time may be lost and a considerable amount of money expended before a final settlement is reached.

The following statistics show the average length of time spent by the parties in the litigation of *assumpsit* actions, from the day the writ of summons was issued until final judgment was entered:

Allegheny County—23 months and 7 days  
Dauphin County—22 months and 16 days  
Philadelphia County—25 months and 9 days

Such a situation is quite astounding, but when it is noted that in several instances actions which were started in September, 1920, were still in litigation, it becomes apparent that complaints of delay are based on facts, not on imagination.

In order to ascertain the average length of time consumed in a litigated case, if *no appeal* had been taken, the writer deducted the time spent in appeals and found the results to be as follows:

Allegheny County—18 months and 4 days  
Dauphin County—16 months and 23 days  
Philadelphia County—19 months and 21 days

This detailed survey included an examination of three of the most densely populated counties of Pennsylvania. In order to discover the situation in the less populated counties, where overcrowding of the court calendars is less pronounced, similar information was requested of the prothonotary of each county. Although every effort was made to elicit satisfactory replies to this request, only a small percentage of these officials furnished the desired information. The replies received, however, indicated that undue delay is not confined to any particular counties, but is prevalent throughout the state. The average length of time necessary to secure a judgment in a litigated case is ten months, according to the estimates of the prothonotaries.

#### LITIGATED CASES SUITABLE FOR ARBITRATION

During the examination of the above mentioned three hundred *assumpsit* actions the subject matter of each case was studied in an attempt to ascertain in what percentage arbitration might have been satisfactorily employed. Before discussing the result of this examination, it might be well to point out that actions of *assumpsit* may be



divided into three main classes: first, those in which the result will be determined by the decision of a technical question of law; second, those in which the decision will depend upon the interpretation of questions of fact, the question of law being comparatively simple and well understood; and third, those in which there is a question of law and fact, both being fairly complicated, and in which the decision depends upon a rather thorough knowledge of technical legal principles, as well as a clear understanding of the facts involved. The reader should note, therefore, that the decisions in certain types of assumpsit cases when litigated depend chiefly upon the interpretation of the facts in the case, while in others the facts are admitted, or are fairly certain. Under our system of jurisprudence, it is the province of the jury to determine questions of fact; whereas the judge is to determine the principle of law that the jury should apply to its finding of facts. But what is meant by a question of fact? A simple contract case may best illustrate the point. Suppose *A* agrees to manufacture certain chairs for *B*. A provision is made in the contract that these chairs are to be made from seasoned walnut lumber. *A* delivers the designated number of chairs, but *B* refuses to pay for them alleging that they have not been made from seasoned walnut lumber. The principle of law applicable to this case is quite evident, namely, that if the chairs were made of seasoned walnut lumber according to specifications, then the purchaser of the chairs has breached the contract and must either accept the chairs and pay the contract price, or pay the damages which the seller has suffered through his refusal to accept the chairs. The determination of the case depends, therefore, upon the question of fact, namely, were the chairs made of seasoned walnut lumber? This

question the jury must determine from the evidence presented at the trial.

#### ARE ARBITRATORS MORE COMPETENT THAN JURIES?

In many instances, the principle of law that applies to the case is quite simple and is known to practically all laymen, but in not all of such cases are the questions of fact so easily determined. Questions of fact may be quite complicated, and when such is the case the jury's problem is not an easy one. Doubt has frequently been expressed by some persons regarding the competency of lay juries to determine technical questions of fact. Those who champion the cause of arbitration believe that arbitrators selected by the parties to the dispute are generally more competent to decide such technical questions than are juries whose individual members are not acquainted with the technical and complicated facts existing in such cases.

It is contended that persons who provide for the settlement of disputes by arbitration generally select arbitrators who are versed in the questions of fact likely to arise in the dispute. Arbiters are generally chosen from among business men engaged in the industry in which the dispute has arisen. They are naturally versed in trade practices and are familiar with the nature of the products in dispute. Even in cases in which the facts are not technical, it is claimed that arbiters selected from among the business men in the community are as competent to decide such questions of fact as a lay jury.

It is, therefore, contended that in cases in which the decision depends upon the interpretation of facts, the principles of law being well understood, arbitrators are generally better qualified to render a decision than the general run of juries.



In cases in which the facts are admitted or in which there is little doubt as to their interpretation, the decision rests upon the principle of law to be applied. If the principle of law dealing with the case is complicated or doubtful, then a judge is unquestionably better qualified to decide the case than are arbiters. This is also true where both the facts and the law in a case are technical and complicated.

A careful study of the three hundred cases showed that in approximately sixty-five per cent of the cases the principles of law were comparatively simple, the decisions being mainly determined by the interpretation of the facts. This leads to the conclusion that approximately sixty-five per cent of the cases were as suitable for arbitration as they were for litigation, if not more so. In the study mentioned, preference was, in doubtful cases, given to litigation.

#### SUMMARY OF DELAYS IN LITIGATION

That there are delays in litigation is evident. The length of time involved depends in part upon the number of cases presented to the courts for judicial determination. Each court of law can only do a limited amount of trial work. If there are more cases in a year than the court can actually try, the cases not reached must await their turn for trial the following year. Year after year, the number of cases for judicial determination increases in number and the court calendars steadily become more congested.

There are naturally more cases awaiting trial in the more densely populated urban counties than there are in the more sparsely populated rural counties. In the former there is more business activity, and therefore more disputes. In such counties of Pennsylvania, the average length of time necessary for the litigation of contract

cases is approximately twenty months, while in the more sparsely populated rural communities, eight to ten months is required. There is no apparent relief in sight. Furthermore, if the number of cases presented for trial each year continues to increase as it has in the past twenty-five years, the outlook for the future suggests the probability of an increase in the time required for a final disposition of disputes by means of litigation.

Where arbitration is resorted to, the length of time required is generally from one to three months—in some cases, less. There is no congested trial list. The arbitrators are not employed daily, year in and year out, hearing cases that have priority because of the date of presentation. The parties select their own arbiters, and the arbiters, if they are willing to serve, set a date at their earliest convenience to hear the testimony of the parties. There is no requirement that the parties be represented by legal counsel. The trial is informal in character and at a time and place convenient to all concerned. The arbiters, after they have heard the evidence, may render an award at the completion of the hearing, or may await a date in the near future. The award, having been rendered and having been confirmed by a court of law, has the effect of a judgment.

In those states which have passed the Uniform Arbitration Act, the courts are required to accept petitions for confirmation of awards on motion day, which is at least once a month. Under the Uniform Arbitration Act, appeals can only be taken where awards have been procured by fraud, corruption, or the misbehavior of the arbitrators.

If a large percentage of contract disputes can be satisfactorily settled by arbitration instead of litigation, then arbitration does present a means by which delay can be avoided in reaching

the final disposition of these disputes. Furthermore, if cases which are suitable for arbitration were arbitrated, it would greatly reduce the number of cases which each year find their way into litigation. Therefore, the congestion of the court calendars would be relieved and cases not suitable for arbitration would in a much shorter time reach the courts for judicial determination. A considerable saving of time would consequently result for all concerned.

### V

In Parts II and III, the procedure used in arbitration under the rules of common law and under the Pennsylvania statutes were discussed. Part V deals with the relation of commercial arbitration to the activities of trade organizations. Prior to the passage of effective arbitration statutes, there was a need felt by trade organizations for an effective method of enforcing agreements to arbitrate. Since these agreements could not be effectively enforced in the courts, these trade associations formulated their own rules and regulations for such enforcement, and many even established tribunals of their own to conduct the hearings. There are also some trade bodies today which, although they do not compel their members to arbitrate disputes, highly recommend arbitration as a satisfactory method and afford the machinery which members may use if they so choose.

#### ARBITRATION AS PRACTICED BY TRADE ASSOCIATIONS

Up to this point, the subject of commercial arbitration has been treated from the standpoint of the procedure in force under the rules of the common law or under the provisions of the various state statutes. Another type of procedure exists in the form of arbitrations conducted under the rules and

regulations of various trade associations located within the various states.

A number of bodies, trade associations, exchanges, or chambers of commerce maintain what are termed arbitral tribunals. An arbitral tribunal need not meet every day of the week, nor even at any given intervals; nor need it have the same judge every time it meets. It may not even have a definite meeting-place, although this is generally one of its chief characteristics.

The working of an arbitral tribunal usually revolves about the activities of an executive of the association which maintains the tribunal—a man who undertakes to supervise and to guide the arrangements for arbitrations. Furthermore, nearly every arbitration tribunal has adopted a set of rules and regulations governing the conduct of its arbitrations. These rules have been compiled as a result of long experience, and they insure proper procedure under the law of the state in which the tribunal is situated. For example, *C* and *D* have a dispute. They decide to have their dispute arbitrated by one of the arbitral tribunals of their city. *C* and *D* go to *X*, the secretary of their chosen tribunal, and describe the details of the dispute to him. He immediately furnishes a submission form which is properly filled out and signed by the parties. In the event there has been no previous agreement in writing to arbitrate, this submission provides the legal evidence of the agreement to arbitrate. As a result of the signed submission, either party may by law enforce the agreement.

If the parties had not presented their case to an organized tribunal, they might have neglected to sign such a submission. Assuming they had failed to sign the submission and had conducted an informal arbitration of their dispute, and assuming

that the award had been rendered against *C*, he might have felt that since he was the loser he would not abide by the award. When *D* petitioned the court to enforce the award, he would have found that the court would not lend its aid in the absence of a legally enforceable agreement to arbitrate. The failure of the parties to sign the submission deprived the agreement of enforceability by law. It is of the utmost importance to follow out the established requisites in the various steps of an arbitration proceeding. These requisites are known to organized tribunals, and parties desiring to arbitrate under the auspices of such tribunals are properly informed concerning such matters.

#### KNOWLEDGE OF LEGAL REQUIREMENTS HELPFUL

As it is part of the duty of those in charge of any organized arbitration tribunal to be familiar with the legal requirements governing the conduct of arbitration, it is advisable for those unfamiliar with these requirements to consult an organized tribunal. To submit a dispute to such a tribunal means to abide by its rules. This, however, is generally desirable as most tribunals are conducted on the basis of complete impartiality and their rules are dictated by experience, with a view to afford maximum efficiency in the conduct of the arbitration. A certainty of the legality of the procedure thereby results. If the rules of an organized tribunal are in some degree unfitted to the needs of a particular case, it is sometimes possible to have the body in charge waive those rules which are in conflict with the mutual desires of the parties, so long as the changes do not affect the legality of the arbitration.

There are two main types of arbitration tribunals, the trade or exchange

tribunal, and the general or chamber of commerce tribunal.

Trade or exchange tribunals are generally maintained by trade organizations whose scope is limited to a particular commodity or to a particular type of transaction. Typical examples of tribunals of this nature are found in the various stock or produce exchanges of the country and in various trade associations.<sup>21</sup> Thus, the New York Coffee and Sugar Exchange maintains an arbitration tribunal which hears disputes arising out of the purchase and sale of coffee and sugar in large lots on the exchange. The American Spice Trade Association has an arbitration board to which disputes arising in the purchase and sale of spices and essential oils may be brought for settlement. The New York Cotton Exchange settles disputes arising among its members in regard to cotton transactions. Likewise, the Grain Dealers National Association maintains a tribunal for the benefit of its members.

#### PROCEDURE OF CHICAGO REAL ESTATE BOARD

The procedure used by the Chicago Real Estate Board is a typical example of that used by many trade associations. Briefly, it is as follows. The Board maintains a standing Reference and Arbitration Committee of five members elected annually by the Board. The Committee considers any dispute referred to it by the Board of Directors, the President, the Secretary, or any member, when the controversy concerns business matters between members or between a member and a client. Disputes concerning the division of commissions between members, or between members and non-members, are also subject to arbitration. The Committee also has jurisdiction over

<sup>21</sup> M. H. Grossman, *Commercial Arbitration*, *passim*.

complaints concerning unethical conduct of members, and is authorized to fix the penalties, provided, however, that appeal from the penalty of expulsion may be taken to the Board of Governors. The Committee is also authorized to dismiss cases, and it may decline to take action, where, in its opinion, there is no merit in the contention of the party submitting the claim. There is no charge for the arbitration service. Hearings are held at the offices of the Real Estate Board.

Rules governing the procedure for the Reference and Arbitration Committee are prescribed in the by-laws. They provide for the signing of a standard arbitration agreement by each party; for the regulation of its own procedure by the Committee, which is not to be bound by legal rules of evidence; for oral hearings, and for stenographic records to be made in the discretion of the Committee; for representation of parties by counsel, if they so wish; and for the admission to the hearings of the attorney of the Board who is to give such assistance as may be necessary. Awards are rendered in writing over the signatures of the arbitrators, a majority being necessary for an award, which is final and binding and must be complied with within ten days. No provisions are made for appeal. Failure to abide by a decision within the time specified subjects the defaulting party to expulsion, after a hearing before the committee has established the fact of his failure.

The maintenance of an arbitral tribunal by a trade association or exchange indicates that such a body has developed a certain amount of trade consciousness, which they have translated into terms of self-regulation by providing an extra-judicial method of settling disputes arising among their members. The ordinary trade or exchange tribu-

nal is limited to a narrow range of disputes.

#### INTERTRADE TRIBUNALS

Another type of trade association arbitration is found where there are several trade associations whose members buy and sell among themselves. In order to arbitrate disputes arising out of transactions of this nature, it is necessary to establish joint or inter-trade tribunals.

For example, there exists today in New York City a joint tribunal maintained by the National Association of the Fur Industry and the American Fur Merchants Association. To this tribunal may be submitted any dispute to which members of either organization are parties. Another example of an intertrade tribunal is that maintained by the Federation of Graphic Arts in New York City. A standing arbitration committee of fifteen members settles the dispute for this organization. This tribunal is composed of members, each of which represents a different branch of the printing trade. Thus, there is on this board one man representing the job printers, another representing the engravers, another the lithographers, another the paper trades, and so on. Any case coming before this tribunal for arbitration is assured of expert adjudication of the technical problems involved. Its scope is broad enough to include any dispute arising out of a contract for the original paper and printer's ink to the final product as sold by the printing jobber.

A splendid example of the value of intertrade tribunals is found in the joint arbitration board established and maintained by the National Association of Importers of Hides and Skins and the Tanners Council of America, Incorporated. Prior to the establishment of this board both organizations had their own tribunals. This resulted in the



failure to arbitrate many cases, because in a dispute between an importer and a tanner each would insist upon having the case arbitrated before his own tribunal. An impasse was thus created which prevented a settlement. The establishment of the intertrade tribunal prevented further difficulties in the choice of a suitable tribunal. Similar experiences have made necessary the establishment of intertrade bodies among other associations allied in business relationships.

#### VARIATIONS IN ORGANIZATION

The organizations of trade bodies differ greatly. Some are organized to include all persons doing a similar business in a given locality. Others only include a few of those persons engaged in a kindred business. The former type of trade association is best illustrated by the New York Stock Exchange. This organization is composed of all who transact business upon the floor of the Exchange. Through years of experience, it has been found that differences arising between members of the Exchange can be most efficiently settled by means of arbitration. For many years the Exchange has effectively enforced a system of compulsory arbitration among its members and the awards are enforced without resort to the courts of law. Any member refusing to obey an award thereby forfeits his right to trade upon the floor of the Exchange. It is said that there has not been a case involving litigation between members of the New York Stock Exchange for many years. This is an excellent example of business organized in ironing out its own difficulties in a manner highly satisfactory to all concerned.

The effectiveness of trade associations is dependent upon two factors: first, upon the number of businessmen in the trade who are members of the

association; second, upon the service rendered by the association to its members. The greater the number of business men in the trade who are members, the greater the control the association will have in raising the ethics and standards of the trade. The greater the service rendered to members, the greater will be the demand for membership in the association. Arbitration of trade disputes may well be considered as a distinct service which any trade association may extend to its members. Many trade associations have come to the realization that business can best be regulated from within the ranks of the trade and, therefore, that the settlement of trade disputes can be best accomplished by arbitrations conducted under the auspices of trade tribunals.

Trade organizations which have adopted the principle of arbitration have followed one of two courses. First, they have provided that all disputes arising between members must be submitted to an arbitration committee of the association. Where this method is followed an arbitration clause is usually inserted in the standard contract, if such a contract is in use. If a standard form of contract is not used, the by-laws of the association stipulate that all disputes arising between members must be submitted to an arbitral committee of the association. Second, they have provided a tribunal to which members may submit disputes arising between themselves. This leaves the members free to arbitrate their differences if they so choose, but does not compel them to do so. In some associations where the voluntary method is employed, a recommendation is made to the members to insert an arbitration clause in their standard contracts. Arbitration is thus encouraged, but not required.



### CHAMBER OF COMMERCE TRIBUNALS

As has been observed, the trade or exchange organizations have provided tribunals which deal generally with disputes covering a narrow range of subjects. These disputes arise out of transactions in a certain commodity and within a certain trade. As contrasted with this type of tribunal, the chamber of commerce type should be noted. The latter is usually maintained by an organization of widely diversified interests. It is an organization composed of business men of all trades and from all walks of life. Its tribunals are open to all members, irrespective of their trade, and in many instances they are open to all business men, even though they are not members of the organization. This tribunal, then, is one to which almost any person can bring almost any kind of dispute for arbitration, provided the other party to the dispute is willing to arbitrate.

There are certain types of disputes which are especially well adapted to settlement by a chamber of commerce tribunal. The most important are disputes between persons engaged in trades which bear no relation to each other and, therefore, have no common intertrade tribunal to which their dispute can be submitted. From the panel of arbitrators, composed of business men from all trades, the parties may each readily choose one familiar with his own trade customs, and the two so chosen may select a third. Thus, a tribunal familiar with the customs of both trades is available to the parties.

Another advantage existing in chamber of commerce tribunals is their readiness to settle disputes for parties who do not belong to trade associations or who are not members of the chamber of commerce. Thus, a tribunal is

afforded to all persons who are desirous of arbitrating a dispute, so long as they agree to abide by the arbitration rules of the chamber of commerce to which they have taken their dispute for settlement. In this connection, it might be well to state that the parties must agree to abide by the award before the facilities of a chamber of commerce tribunal become available for their use. As a general rule, tribunals of this nature render their services either gratuitously or for a nominal fee.

### EXTENSIVE USE OF TRIBUNALS DESIRABLE

It is to be regretted that a more general use has not been made of the chamber of commerce tribunals. The reason for this is, in the main, the indifference of the American business man toward the amicable settlement of his disputes. Arbitration is most effective in those trade bodies which compel their members to arbitrate all disputes. It is used to a considerable extent in trade organizations which do not make it compulsory, but which have established arbitration boards and have urged their members to submit disputes to these bodies. The chambers of commerce not being organizations confined strictly to trade lines can at best furnish a tribunal open to its members, but with no means of compelling arbitration. Its sole appeal for arbitration is to a heterogeneous group of business men who rarely have business dealings with one another.

Business men who are not members of the chamber of commerce can only be reached by demonstrating to them the advantages to be gained by an amicable settlement. This appeal only reaches a comparatively small percentage of the business community, and is none too thoroughly understood even by them. There is no motivating

force to induce persons of this character to arbitrate, as there is in a well organized trade association. A movement directed toward the education of the business community as a whole to the advantages of arbitration is necessary before chamber of commerce tribunals will be extensively used.

Before leaving the subject of chamber of commerce tribunals, mention should be made of the efforts and success acquired by the Chamber of Commerce of the State of New York. At the first meeting of this organization in 1768, a resolution was passed creating a committee on arbitration. From that date on to the present time, the Chamber of Commerce of the State of New York has maintained a panel of arbitrators and has kept its portals open to those of the business community who have wished to settle their disputes in an amicable manner. At the present time it maintains a panel of arbitrators numbering about six hundred and fifty and composed of business men from almost every type of trade. A forum is thus maintained to which conflicting interests may appeal when they do not care to seek the aid of a trade association. Non-members, as well as members, may use its arbitral facilities.

The procedure adopted by this organization has served as a model to many general, as well as trade, associations throughout the country. Much credit is due to the Chamber of Commerce of the State of New York for the assistance that it has rendered in disseminating information concerning the use and application of arbitral procedure. The support it has given to the arbitration movement has undoubtedly had considerable weight in the passage of favorable and effective legislation both in State and Federal legislatures.

#### THE AMERICAN ARBITRATION ASSOCIATION

Another organization which deserves a considerable amount of credit for the part which it has played in the furtherance of the arbitration movement is the American Arbitration Association. It has functioned along three distinct lines: as an educational body, as a service organization, and as a practical arbitral tribunal.

As an educational body, its purpose is to collect and to publish information concerning commercial arbitration. As a service organization, it assists trade bodies in drafting arbitration rules and trade agreements and in the installation and improvement of arbitral machinery. It has taken a foremost place in advancing arbitration legislation so that trade associations and the business community generally may benefit by effective arbitration statutes. Uniform arbitration legislation has been one of the main goals of this association. Finally, it maintains a practical arbitral tribunal to which individuals, firms, corporations, and trade bodies may bring disputes for settlement by a speedy, just, and inexpensive method.

The Association has a membership of approximately nine hundred individuals, firms, and corporations. There are, also, approximately three hundred trade and professional organizations throughout the United States which have become affiliated with it. It has an Arbitration Committee, composed of seven members, who have supervision over the conduct of arbitrations, the selection of arbitrators, and any questions of policy that may arise.

The Association maintains arbitral facilities for the settlement of controversies among its members and for members of trades which provide no such machinery, as well as between members of different trades having no

joint facilities. It also arranges with national and local associations to conduct their arbitrations. Such arrangements have been made with the Actors' Equity Association, the Dramatists' Guild of the Authors' League of America, and the New York Building Congress.

For the purpose of conducting arbitrations the Association has appointed a national panel of arbitrators who are available not only for service on its own tribunal, but who may be called upon to serve in arbitrations conducted by other organizations. This panel is selected on the basis of the character of its members and the position held by them as experts in their several fields. In matters involving legal questions, jurists and members of the bar may serve as arbitrators. They may also serve in other cases. The arbitrators are selected from this panel by the parties. If some highly qualified person is not a member of the panel, the Association will at the request of the parties, invite him to serve as arbitrator. Arbitrators receive remuneration only when the arrangement is voluntarily entered into between them and the parties.

There are hundreds of trade associations throughout the United States which have established rules and regulations concerning the settlement of disputes by arbitration within their own association. Many of these associations have established tribunals of their own. Some of the trades which have well-organized systems of arbitration may be profitably reviewed. Those which will be described are by no means a complete list, but are representative examples of some of the most important.

#### THE MOTION PICTURE INDUSTRY

Of the various industries of the United States which have risen to full growth in a comparatively short period

of time perhaps the motion picture industry heads the list. Much of the success of the motion picture industry in America has been due to the excellence of the organization known as the Motion Picture Producers and Distributors of America, Incorporated. This organization is composed of the leading producers and distributors of motion pictures.

The motion picture theater owners have an organization known as the Motion Picture Theater Owners of America. Experience in the industry showed that the vast majority of disputes arose between the distributors of motion pictures and the exhibitors—the theater owners. These disputes were so numerous that a speedy and inexpensive method of settlement was imperative. To this end the Motion Picture Producers and Distributors of America, Incorporated, sought to provide for arbitration by means of a Standard Exhibition Contract, which contained a compulsory arbitration clause. This contract was jointly agreed upon by both the Motion Picture Producers and Distributors of America, Incorporated, and the Motion Picture Theater Owners of America.

For the enforcement of the terms of the Standard Exhibition Contract, boards of arbitration were established in those cities in which Film Boards of Trade were located. Such boards consist of six persons, appointed for periods of three months. Three of the members of the board are selected from among members of the Film Board of Trade, and represent the distributors. The other three members are selected from among the proprietors or managers of motion picture theaters in the territory of the Film Board of Trade. The vote of a majority of the members of the board is necessary to make an award. In the event of a tie vote, a seventh arbiter, who is not interested

in motion picture business, is appointed by the board.

These boards of arbitration have power to hear and determine all disputes arising out of the breach of the Standard Exhibition Contract. In the event that an exhibitor either refuses to arbitrate a dispute or refuses to comply with an award, the arbitration board is empowered to compel such exhibitor to deposit a sum of money not to exceed five hundred dollars with the distributor until the order to arbitrate has been obeyed. The board of arbitrators receives no fee for its services. It has been found that practically all disputes in this industry are settled within a period of from thirty to sixty days. An inexpensive and speedy method of settlement of disputes has thus been furnished to persons conducting business in this industry, and at the same time the business standards of the industry have been raised.

#### THE GRAIN, HAY, AND SEED TRADES

Arbitration is a prime factor in the business life of those who are dealers in various grains. In 1901, the Grain Dealers National Association introduced the practice of arbitration into this trade. This organization is national in scope and has incorporated within it nineteen affiliated organizations. The procedure has been eminently satisfactory. Approximately thirteen hundred cases have been disposed of by arbitration.

Not only has the Grain Dealers National Association supported arbitration in theory, but it has been one of those associations which has developed to the point of being self-regulatory. The by-laws provide for compulsory arbitration of all disputes, and for the failure or neglect on the part of any member to submit to arbitration or to abide by an award provision is made for his expulsion from the asso-

ciation. The compulsory feature has been found to work very satisfactorily and with the rather significant effect of greatly reducing the number of disputes which have arisen.

#### THE FOOD INDUSTRIES

Great progress has been made by arbitration in the food industries, not only in the individual trades, but in intertrade arbitration as well. In the fruit and vegetable trades a system of standard rules and definitions of trade terms has been adopted. This system includes provision for arbitration. In 1913, the National Wholesale Grocers Association, the National Food Brokers Association and the National Canners Association jointly established a system for the arbitration of disputes arising between members of each association. The system is known as the National Uniform Plan of Arbitration. Under this plan, a standard type of contract containing an arbitration clause is strongly and successfully recommended to the members for their use.

Importers of articles of food have also joined in the arbitration movement. The American Spice Trade Association, for example, has established a very complete system of rules and regulations for the compulsory arbitration of disputes in that trade. Various other associations, including the Green Coffee Association, the National Coffee Roasters Association, the Cocoa Merchants Association of America, Incorporated, the National League of Commission Merchants of the United States, the American Fruit and Vegetable Shippers Associations, and the Interstate Milk Producers Association, have adopted arbitration.

#### THE SILK INDUSTRY

Arbitration in the silk industry centers in the Silk Association of



America. This Association was organized in 1872, at a convention attended by forty-three silk firms in New York City. It now has a membership of over four hundred and sixty, including the following divisions of the trade: raw silk importers, dealers and brokers, commission throwsters, manufacturers of sewing silks and twists, broad silk, ribbons and hatbands, laces, nets and veilings, knit goods and glove silks; skein dyers, piece dyers; printers and finishers; manufacturers of silk machinery and supplies; manufacturers' agents and commission merchants; commission warpers and winders; manufacturers of woven labels, hosiery, spun silk, velvets, tie silks, and thrown silks; rayon manufacturers; and warehousemen. The following among these divisions are organized and have their own executive committees: raw silk importers, commission throwsters, manufacturers of sewing silks and twists, broad silks manufacturers, ribbon manufacturers, makers of glove silk fabrics, woven label manufacturers, spun silk manufacturers, and dealers in thrown silks.<sup>22</sup>

The Association recommends a uniform arbitration clause for silk contracts. The use of this contract is not compulsory, but the records of the Association show that the clause is widely used. The raw silk, broad silk, commission throwing silk, spun silk, and thrown silk divisions of the Association carry standard arbitration clauses in their contracts, and their individual rules provide for arbitration.

The Silk Association of America issues a monthly publication, *The Silkworm*, which contains articles and replies to questions concerning arbitration and other statements of interest on the subject. The Association also publishes an Annual Report which con-

tains a report of its activities, as well as summaries of the arbitral awards rendered. In addition, the Association has issued an Arbitration Manual containing the texts of the by-laws governing arbitration, the standard arbitration agreement, rules for the conduct of arbitrations, the New York State Arbitration Law, and the United States Arbitration Act. The Association has a codified set of trade practices, which clearly define the standards of quality and the terms used and which is published by the Association for the guidance of arbitrators in rendering awards.

The record of the Association from 1900 to 1928 indicates that approximately two million dollars has been involved in cases brought to the Association. The sums involved vary from forty dollars to five hundred and fifty thousand dollars. Not more than five of all the arbitrations that the Association has conducted have been appealed to the courts. The type of questions which have been submitted to the Association for arbitration cover a wide range, from disputes arising over payments and deliveries, to those concerning defects in goods, quality of finishing, printing, shortages, and delays. A number of the disputes are international in character, involving raw material markets in the Far East and in Europe. In such instances the foreign firm designates a representative in New York to act at the hearings. The Silk Association of America has thus built up a structure which is of primary importance and value to the silk trade not only of the United States, but also of the world.

#### THE LEATHER INDUSTRY

In an industry with interests so diversified as that of the leather trades, it was essential to establish an intertrade body that could assume jurisdiction

<sup>22</sup> 1927 Yearbook on Commercial Arbitration, p. 772.



over the various disputes. The four main divisions of the industry comprise the tanners of leather, the manufacturers of tanned leather, the wholesalers, and the retailers. Each of these main branches has organized its own trade body. There exist the Tanners Council of America, the National Boot and Shoe Manufacturers Association of the United States, Incorporated, the National Association of Shoe Wholesalers of the United States, and the National Shoe Retailers Association. The business dealings in this industry are carried on between the members of one association with those of another. It would be unsatisfactory, therefore, for any one association to handle an arbitration when one of its members and the member of another association were disputants. This resulted in the formation by the above-mentioned four main associations of the Council of Arbitration of the Shoe and Leather Industry.

This Council is composed of the president of each of the four associations and a secretary. When a dispute arises which the parties desire to arbitrate, they inform the secretary of the Council. The secretary then advises them to agree upon the number of arbitrators who are to hear the case and recommends that each submit the names of the arbitrators. The Council must approve the arbitrators selected before they are competent to serve. Upon the Council's approval being granted the arbitration is then conducted, the arbiters submitting their report to the Council. The Council then surveys the award, and if found satisfactory it is approved; otherwise it is rejected.

The arbitrators who hear the dispute do not receive a fee, nor does the Council charge a fee for the services which it renders. An inexpensive method is thus provided for the settlement of

disputes which the members voluntarily submit for settlement. Furthermore, strict supervision of awards is provided and the disputants are assured both fair and impartial decisions in the matters submitted.

Despite the large number of tribunals which are now in existence, the arbitration movement has not nearly reached the highest point in its development in the United States, even though it has been possible to arbitrate commercial disputes in this country for over a period of one hundred and fifty years. The average business man has not been fully acquainted with its workings and, accordingly, has not found occasion to take advantage of its benefits. The movement of education has just started. Every day new organizations are providing arbitration facilities. There is a constant increase in the number of business men who, after obtaining a thorough understanding of the nature of this institution, refuse to expose themselves to the expense and the delay of litigation, and submit their disputes to arbitration, the twentieth century method of ironing out business disputes.

Trade arbitration has been handicapped in many states by the fact that agreements to arbitrate have not been sufficiently protected by statutes and have been held by the courts to be revocable. In those states, the law gave trade associations only limited power of enforcing awards. Their only effective weapon was to threaten expulsion from the association for failure to abide by the award. This resulted merely in a question of the advantage to be gained by a member from further connection with the particular association. In such strongly organized associations as the New York Stock Exchange the desirability of maintaining membership induced members to obey the awards. In associations

where membership was not so imperative, a member who did not believe that he would benefit by remaining in the organization would refuse to abide by an award that had been found against him and would suffer expulsion. This system hampered effective trade association arbitration. However, the passage of the new Uniform Arbitration Act by the states previously mentioned has firmly established effective trade arbitration in those states.

## VI

Up to this point, the practice of arbitration has been discussed from the standpoint of the methods which are in actual use. A short survey of some of the effects of arbitration upon standards in the conduct of business may not be amiss.

Commercial arbitration arises out of a relationship between people doing business with one another. Because of the complexity and magnitude of modern business enterprises, a natural tendency toward self-preservation has caused a feeling of duty to arise among those who have at heart the best interests of business. This is evident in the development of business codes of ethics.

### EFFECT OF ARBITRATION ON BUSINESS STANDARDS

Everyone realizes that misunderstandings are bound to arise in business dealings. When a dispute does occur there are three possible courses which may be taken. First, it may go unsettled. This is not satisfactory, as it means that one of the parties must suffer a loss while the other gains from a breach of duty. It is quite probable that the person suffering what he deems an unjustified loss will bear a considerable resentment toward the one whom he deems at fault. The result is that future business dealings of these parties

will be few and far between. If these individuals do enter into future business relationships it is likely that the injured one will await an opportunity to square the account. At best, the standards of business are lowered as a result of this course. Second, the one who feels that he has been injured by the breach of contract on the part of the other may litigate the case. Today such a procedure is tedious and expensive. From one to three years may elapse from the time that the action at law has been started until a final judgment is rendered. During this time necessary witnesses may die or move from the jurisdiction.

In the event that he wins his case, damages in the form of money are not available to the injured party for use in his business during the period of litigation. This is an unfair hardship which he must suffer when he has not been the one at fault. It is quite probable that enmity has been incurred which will prevent future dealings. In litigation the court room has often been referred to as the battle-ground of contending parties, each supported by an array of legal talent and numerous witnesses. The judgment once obtained is far from constituting a treaty of peace and a guarantee for future friendship.

The facts in the case may be of a technical nature which a jury of twelve disinterested, and for the purpose, uninformed men may not understand. Many cases turn upon the correct understanding of the facts. If the expert witnesses who testify are not able to make the lay jury comprehend the technical distinctions in the facts injustice may likely result.

The expense in litigating a case is considerable. There are filing fees, fees for the issuance of writs, witness fees, and attorney fees. If the amount of the claim is small the expenses may equal it. A common expression con-

cerning the litigation of small claims, that the winner is very often the loser, is a paradox too often true. The result is that the successful litigant may have little more than the satisfaction of knowing that the court has agreed with him.

The third course that the injured party may follow is to effect an amicable settlement. Conciliation, mediation, or arbitration are the three most prevalent methods of amicable settlement. Conciliation and mediation tend toward compromise, rather than a settlement on the merits. Arbitration appears to be the most satisfactory method to pursue in order to reach an amicable settlement on the merits.

If the parties have inserted an arbitration clause in their contract at its inception, then in the states which have adopted effective arbitration statutes the injured party may demand that the case be arbitrated and the law courts will compel the other party to arbitrate. If, however, no provision for arbitration has been made in the contract the injured party may proceed to obtain the consent of the other party to arbitrate. If that consent can be obtained the parties should signify in writing their willingness to have the cause decided by arbitrators. This agreement is termed the "submission," and is legally binding upon the parties in those states which have adopted the Uniform Arbitration Act.

#### ADVANTAGES OF ARBITRATION

The next step in the proceedings is the naming of arbitrators. Arbiters having been chosen, the parties then proceed on the appointed day to present their case. Almost invariably the procedure is informal and technical legal rules of evidence are not used. The hearing having been concluded, the arbiters make an award in writing. The successful party presents this award to the law court of original juris-

diction in the county in which the arbitration has been conducted, and petitions the judge to confirm it. The judge, upon being satisfied that the arbiters have not exceeded the scope of their authority and that there has been no fraud or impartiality, will confirm the award. Such a confirmation gives an award the same effect as a final judgment, and it may be so recorded. It has been found in practice that settlements by this procedure are usually effected in from thirty to sixty days from the time the dispute has arisen. A considerable saving of time, which also means a saving of money, has thereby been made possible.

It has also been found that where arbitration has been employed the future business relationship of the parties has seldom been disturbed. The dispute may have arisen out of a natural and reasonable difference in the interpretation of a contract. At the time that the difference arises both parties are not infrequently willing to admit that there is something which may be said for the other side. By an informal presentation of their respective views at the hearing which usually takes place within a comparatively short time after the inception of the dispute, the parties are very likely to be in a more receptive frame of mind than if the same dispute had dragged through several years of litigation. The result is usually found to be that these parties will continue to deal with each other in the future. If this is true, arbitration certainly offers a decided advantage over litigation.

By far the greatest number of contracts are of a commercial nature. They are chiefly contracts between manufacturers and wholesalers, between manufacturers and jobbers, between jobbers and retailers, between brokers and dealers in cotton, steel, iron, wool, lumber, produce, cloth,

paper, food products, and an innumerable list of commodities. In all of these commercial contracts there are involved certain elements of price, quality, quantity, terms of delivery, and time of payment. It is out of these elements that disputes arise. Differences of this nature are suitable for arbitration.

The paramount reason why differences of this nature are particularly suitable for arbitration is that every trade has established through usage certain recognized standards and customs, known to those who engage in that trade. Parties who agree to arbitrate commercial disputes usually choose as arbitrators business men who are engaged in the trade out of which the dispute has arisen. This is particularly true where the parties have inserted in the contract at the time of its formation an arbitration clause, in which the arbiters are named. Business men who are accustomed to follow this practice realize that it is a distinct advantage to have men of high standing in the trade serve as arbiters. This assures expert adjudication of the facts.

The non-commercial contract is uncommon and unusual. It frequently involves technical questions of law and rather unimportant questions of fact. Disputes arising out of such contracts are not suitable for arbitration and should not be submitted to arbiters. Here litigation offers the best procedure, since judges in law courts are better qualified to pass upon technical questions of law than are lay arbitrators.

The legislators in the State of Pennsylvania foresaw the possibility that an occasion might arise during the proceedings when the arbitrators might not be certain of the correct legal principle which should be applied by them in finding an award. To meet this situation, Section 17 was inserted

in the Pennsylvania Arbitration Act of 1927. This section provides that the arbitrators may petition the Court of Common Pleas in the county in which the arbitration is being conducted for a statement of the law which they shall apply in finding the award. This provision is a step forward, since it is now possible in Pennsylvania to have not only expert adjudication of the facts, but also the application of correct principles of law in arbitration proceedings. Other states which have passed effective arbitration legislation would do well if they incorporated a similar provision in their arbitration statutes. Future arbitration legislation would also benefit by the example set by the Pennsylvania legislature.

#### SUMMARY

In order to realize and appreciate the advantages that commercial arbitration offers the business man, a short summary of these benefits should be made. No better statement of these advantages can be found than the following, presented in the 1927 Annual Report of the Committee on Arbitration of the Chamber of Commerce of the State of New York, a pioneer in this field of activity:

(1) Arbitration furnishes a forum for the speedy disposition of mercantile differences and disputes by experts in the line of activity involved.

(2) It saves time, trouble, and money to the disputants, the law office, and the state.

(3) It relieves the courts so that their time can be given to matters clamoring for speedy attention.

(4) It maintains business friendships.

(5) It eliminates business waste.

(6) It raises business standards and ethics.

(7) It upholds business honor.

(8) It is an insurance against the tying up of business capital during litigation.

(9) It is an insurance against the tendency to compromise on the part of juries.

(10) It is insurance against manhandling in the courts.

(11) It is insurance against the effect of death, disappearance, and forgetfulness of witnesses.

(12) As a poor man's court arbitration has no equal.

According to some economists, the economic waste attendant upon litigation is next in size to that caused by war. President Herbert Hoover states in a foreword to the *1927 Year Book on Commercial Arbitration*:

I have been for many years of the conviction that arbitration of commercial disputes in place of avoidable litigation is an agency of the first rank in the promotion of business efficiency. Information collected by the Department of Commerce over the past several years has clearly showed that the substantial element of the American business public is overwhelmingly in favor of arbitration in the settlement of commercial disputes.

Arbitration is a method of coöperating with the courts. It is in no sense a

rival. The following statement by the Honorable William Howard Taft, former Chief Justice of the United States Supreme Court, supports this contention:

I favor arbitration wherever it can be practically adopted, both because it usually expedites matters and because it will relieve the courts. One of the great evils from which our country is now suffering is the delay in the dispatch of legal business and anything which will relieve the courts makes for progress in removing that evil.

One of the chief necessities to insure the increased use of commercial arbitration is an educational policy for American business men, so that they may become familiar with the practice of commercial arbitration and observe its advantages as contrasted with litigation. The tendency for the application and the use of commercial arbitration to spread may be expected to continue, for arbitration provides a necessary supplement to our legal system.



## APPENDIX

### Report of the Board of Directors of the American Academy of Political and Social Science for the Year Ending December 31, 1929

#### I. REVIEW OF THE ACADEMY'S ACTIVITIES

Your Board is able to present to the members of the Academy a gratifying record of progress for the year 1929. During the year, the publications of the Academy, as well as our meetings, have enjoyed an ever widening influence in the enlightenment of public opinion. To an increasing extent special governmental commissions, both national and state, as well as educational institutions, are using the publications of the Academy both for guidance and as basic material in the conduct of their work.

The members of the Academy will recall that an Academy Center was established at Los Angeles, California, on May 4, 1928, and has been performing a most important service. This center has now merged with the Pacific Southwest Academy under the name of "The Pacific Southwest Center of the American Academy of Political and Social Science." It is the hope of your officers that similar centers be established in other sections of the United States, thus greatly strengthening the Academy's influence.

The Thirty-third Annual Meeting of the Academy, held April 26th and 27th, 1929, was in every respect a significant occasion and served to bring together, not only the members of the Academy from different sections of the country, but also delegations from educational, civic, and commercial associations, national and state. The reports of such delegations to their

respective organizations serve greatly to broaden the influence of the discussions of the Annual Meeting. The publication of the proceedings in a special volume made these discussions available to all the members of the Academy who were unable to attend the sessions.

In addition to the Annual Meeting, the Academy held the following special sessions during the year 1929:

January 21st—"Italy and Mussolini."

February 15th—"Long-Term City Planning."

March 15th—"The Problems of Modern Diplomacy."

November 7th—"A Frenchman's Impressions of the United States."

November 27th—"Modern Application of the Theory of Congressional Representation."

During the year 1929, the following Fellowship Awards have been made:

To

Mr. Jeremiah P. Shalloo to study the subject of "Private Police."

Dr. Austin Macdonald to take up the study of "Municipal Airports."

The results of these studies will appear later in the Academy's publications.

#### II. PUBLICATIONS

During the year 1929, the Academy published the following volumes and supplements:

January—Tariff Problems of the United States  
 March—Farm Relief  
 March Supplement—Radio  
 May—Women in the Modern World  
 May Supplement—Foreign Office Organization  
 July—Present Day Causes of International Friction and Their Elimination  
 July Supplement—Lobbying  
 September—Law and Social Welfare  
 September Supplement—India  
 November—The Police and the Crime Problem

### III. MEMBERSHIP

During the year 1929, the Academy enrolled 1,526 new members and subscribers. The Academy lost 89 members by death, 508 by resignation, and 701 delinquent members and 133 subscriptions were dropped. The present membership of the Academy is 9,722 members and subscribers.

### IV. FINANCIAL CONDITION

The receipts and expenditures of the Academy for the fiscal year just ended are clearly set forth in the Treasurer's Report. The accounts were submitted to the E. P. Moxey Company for audit, and a copy of their statement is appended herewith. In order to lighten the expenses incident to the Annual Meeting, a fund of \$3,525 was raised. The Board desires to take this opportunity to express its gratitude to the contributors to this fund.

### V. CONCLUSION

In conclusion, your Board desires to impress upon the members of the Academy that the scientific investigations undertaken under the auspices of our organization can be greatly extended through an increase of the Academy's endowment fund. In ad-

dition, we should look forward to the possibility of establishing the Academy in its own building with the equipment necessary for offices, meetings, and conferences, together with adequate library facilities. No other organization in the United States is able to perform to the nation quite the same service that the Academy is performing and the extension of this service depends in a large measure upon the coöperation of our members.

The Board desires to express its appreciation to the many members of the Academy who have coöperated in our work and also to express the hope that their interest will continue unabated during the year 1930.

EDWARD P. MOXEY & Co.

The Philadelphia Bank Building,  
 Philadelphia

January 15th, 1930.

CHARLES J. RHOADS, ESQ., *Treasurer,*  
*American Academy of Political and*  
*Social Science, Philadelphia, Pa.*

Dear Sir:

We herewith report that we have audited the books and accounts of the *American Academy of Political and Social Science* for its fiscal year ended December 31, 1929.

We have prepared and submit herewith Statement of Receipts and Disbursements during the above indicated period, together with Statement of Assets as at December 31, 1929.

The Receipts from all sources were verified by a comparison of the entries for same appearing in the Treasurer's Cash Book with the record of Bank Deposits and were found to be in accord therewith.

The Disbursements, as shown by the Cash Book, were supported by the proper vouchers in the form of canceled paid checks or receipts for monies expended. These were examined by

us and confirmed the correctness of the payments made.

The Investment Securities listed in the Statement of Assets were examined by us and were found to be correct and in accord with the books.

We have also prepared and submit herewith Statement showing the financial condition of the S. N. Patten Memorial Fund and the Edmund J. James

Memorial Fund as of December 31, 1929, as well as the Income derived from these fund investments.

As the result of our audit and examination we certify that the statements submitted herewith are true and correct.

Yours respectfully,  
(Signed) EDWARD P. MOXEY & Co.,  
Certified Public Accountants.

### AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

#### STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR FISCAL YEAR ENDED DECEMBER 31, 1929

Cash Balance, January 1, 1929			\$7,533.07
<i>Receipts</i>			
Members' Dues	\$30,198.45		
Special Donations	3,525.00		
Subscriptions:			
Individuals	\$178.75		
Libraries	2,123.97		
Agents	6,630.74	8,933.46	
Sales	6,926.22		
Interest on Investments and Bank Deposits	8,682.74		
Advertising	96.50		
Sale or Maturity of Investments	5,000.00	69,362.37	
			\$76,895.44
<i>Disbursements</i>			
Office Expense	\$6,664.74		
Philadelphia Meetings	5,337.27		
Publicity Expense	5,003.92		
Publication of <i>The Annals</i>	37,619.75		
Membership Records	5,996.61		
Sale of <i>The Annals</i>	1,664.96		
Investments	4,987.50		
Discounts and Collections and Exchange	12.21		
Research Fellowship—Jeremiah P. Shalloo	375.00		
Securities Purchased for James Fund	940.00	68,691.96	
Cash Balance, December 31, 1929			\$8,203.48
<i>Represented by</i>			
Cash:			
In Academy Office	\$400.00		
In Treasurer's Hands, Girard Trust Company	7,803.48	\$8,203.48	

## Book Department

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HAZLEWOOD, CRAIG B. *The Bank and Its Directors.* Pp. x, 251. New York: The Ronald Press Company, 1929. \$3.50.

It is unique, the reviewer believes, for the President of the American Bankers' Association to write a book during his administration. One may well wonder how, in addition to the duties of that high office, and the duties of the Vice-President and Director of the First National Bank of Chicago and the First Union Trust and Savings Bank, and of the Chairman of the Board of the Lake Shore Trust and Savings Bank of Chicago, Mr. Hazlewood could find time to write such an extensive, well-rounded, carefully-prepared book! He is setting an excellent example which bankers and the public may well wish his successors to emulate. A large duty of the vice-presidents and president of the Association is the making of speeches, writing articles, and sitting in counsel on all phases of banking policy, administration, and public relations. The banking fraternity and public are thus privileged to know their views and principles on many subjects. But, Mr. Hazlewood is doing an additional signal service to his fraternity and the public by writing, out of his rich and successful experience, an elementary book, in most readable language and pleasing style, on the proper conduct of a bank. His pronouncements come from his eminent position with a convincing force; he has seized the most opportune time of his life to influence the

local bankers of this country to adopt better policies and to operate more scientifically. His book will most fittingly be widely read; he touches the weakest feature in American bank administration when he treats the relationship of the directors to the bank; and it would be well for every bank president to provide each of his directors with a copy of this book and see that it is read by them.

This is a book with a motive, namely, to promote better and scientific bank management, to familiarize all bankers with the more or less scientific standards which successful banks have developed, to get the weight of the American Bankers' Association and the various state associations behind better bank management, and to encourage coöperation on credit information, professional training for bankers, and the thorough equipment of bank directors for their work. "In its composition, there has been a constant stress of forces between the desire to present an absolutely elementary perspective of the bank director's work for those directors who go no deeper, and a desire to fire the imagination and feed the minds of the many directors who are deeply dedicated to their responsibilities and opportunities."

"The director of a good bank . . . occupies a position of exceptional responsibility, power, prestige, and honor." The author elects to devote his book to the first of this tetrad, and he states and restates the



director's responsibilities and opportunities for service to the bank—those that the law and the courts have set for him and those that business expediency and public welfare require of him. The chapter subjects indicate the scope of the book, e.g., the director's opportunity in upbuilding the bank, the sources of strength and profit in banking, the causes of bank failures, the capital structure and dividend policies, the management of the bank's funds, sound loan policy, building up the bank's profits, investment and trust departments, savings departments, organization and management policies, and the methods employed by a director. The final chapter is written by Thomas B. Paton, counsel for the American Bankers' Association, on the legal features of the duties and the responsibilities of bank directors.

The book is well filled with carefully chosen quotations from the Comptroller of the Currency, the state bank commissioners, certain prominent bank officials, certain bank researchers, e.g., H. N. Stronck, and court decisions. One feels that the book has been written against the background of a questionnaire which the author has sent to those persons. One evident reaction on the author's reading the answers received to his questionnaire was that he was impressed with the variety of policy or lack of policy, with the low order of management apparent in banks, and with the high need of banking education. In order to reinforce his convictions and to give them greater persuasive power, he seconds his pronouncements with liberal quotations of others stating the same point; the text therefore has duplicative paragraphs, but they do not seem to dim its vitality. In the chapter on "Building up the Bank's Profits," one finds eleven full-page statistical tables and three bar charts, presenting studies in bank earnings and expenses made by the Wisconsin, Illinois, Indiana, and Michigan State Bankers' Associations, in coöperation with the Federal Reserve Bank of Chicago; but, outside of these pages, the book is free from statistical data. There are no footnotes and the sources of quoted materials are not stated except in most general ways.

While the author has big visions of the

service of banks to the country and community, he writes from the point of view of a banker seeking profits, from the acquisitive, competitive, aggressive point of view. To illustrate, on pages 163-64, he says: "In many of these matters, time is of the essence. If the lead can be secured before it has become a matter of public knowledge, the bank is in an advantageous position to secure highly desirable, profitable business." It would, however, be wrong for the reviewer to press this point because the great purpose of the book is not to teach a bank to profit by shrewd anticipations, but by practicing policies approved and used by other ably managed banks in the everyday tenor of their business. These principles are not new and startling; he points to one-man banks, to communities with too many banks, to small towns and small banks, and to one-industry sections, and newer sections of the country, as the most probable scenes of failure; he names loans in excess of the legal ten per cent limit, loans to directors and officers, and to interests with which they are connected, capital loans, real estate investment and real estate speculation by bank officers, directors and relatives, and sheer incompetence and mismanagement, as the chief causes of failure; and he outlines two simple ways the directors may insure themselves against failure from any of these causes. He lays down simple rules for dividend policy, capital structure, diversifications of loan and investment portfolios, secondary and primary reserves, the balance loans and investments, maintenance of credit files, overdrafts, jury system of passing on loans, control of salary and wage payroll, service charges, the segregation of the trust and savings departments, and so forth.

The reviewer takes exception to some principles the author recommends. The one he condemns most is developed on pages 105-7, namely, that the "first test in determining whether or not a loan request should be granted is the degree to which an applicant has contributed to the fund which makes loans possible." The arguments offered in support of this principle are not valid. The reviewer will not state his objections here for he has done so elsewhere (see *Journal of Political Economy*, June

1925, pp. 257-77). The reviewer feels that our banking operations would be more scientifically and safely conducted were this principle dropped. The banker generally deceives himself and the customers, if we believe the justifications the author offers for requiring the balances from borrowers.

RAY B. WESTERFIELD

Yale University

ANGELL, NORMAN. *The Story of Money*. Pp. xvi, 411. New York: Frederick A. Stokes Company, 1929. \$5.00.

In his preface, Mr. Angell says he has written a book for laymen "to tell the story of money in its social relation." It is commendable to try to educate the laymen in such matters. But, in spite of the attractive form of the book, with numerous illustrations and the flair for the picturesque, it is doubtful whether the appeal to the general public will be effective. The book abounds in quotations which mar it for the general reader, but which will increase its value for purposes of reference.

The teacher of money will find many things to use as supplementary reading. There is a suggestive treatment of money as an institution. Early types of money and credit instruments are described and, in many cases, shown in pictures. The account of money in Greece and Rome is fairly detailed. The Mercantile System is treated and the persistence of the policy in reparations after the Great War. Considerable space is given to usury, the Jews as money-lenders, and the relation between the growth of Capitalism and the Protestant Reformation. The early development of banking and money-lending is sketched. The account of paper money sets forth Law's scheme, the South Sea Bubble, the experience of the American colonies, the Continental issues, the Canadian playing card currency, and the Guernsey Market House incident. Contemporary reports from the London papers are given to trace the course of inflation in Germany. The final chapter is a symposium of present day proposals concerning monetary policy.

JAMES D. MAGEE

New York University

STEINMETZ, S. RUDOLF. *Soziologie des Krieges*. Pp. xii, 704. Leipzig: J. A. Barth, 1929. M.42.

Dr. Steinmetz is one of the most prominent of the European sociologists and ethnologists. His *Soziologie des Krieges* is the second edition of a work entitled *Philosophie des Krieges*, published in 1907. However, the second edition is so greatly changed and augmented that its new title is entirely justified. It was written after the war had provided an acid test of the principal theories of the *Philosophy of War*. What changes did the war produce in Dr. Steinmetz's theories? He changed practically none of his main contentions, but merely developed them more deeply and added new arguments in their favor. In both books he regards the roots of war as inherently tied up with human nature and human society. While he stresses the negative effects of war, he claims that this is only the debit side of the balance sheet; on the credit side, there are a series of important and beneficial effects. (War fosters that aggressiveness which is necessary for man's survival as well as for the building of groups and the state; it exerts a positive influence on the moral and mental qualities of man, and hence is more an instrument of positive than of negative selection, and so forth.) In both editions he shows that the negative effects of war have often been exaggerated. Finally, he develops the arguments by which he hopes to demonstrate that there is only an insignificant probability of the elimination of war in the future.

While Steinmetz's *Philosophy of War* was one of the most significant sociological studies of war, the second edition is still more deserving of this characterization. He analyzes all the fundamental aspects of this great problem in a very dispassionate manner, and with extraordinary erudition, patience, and thoughtfulness — qualities which characterize all his principal works. The analytical portion of the work is followed by his evaluations. If the evaluative part may be questioned, the analytical and factual part is built so solidly that it cannot easily be waived aside. Of course, several of his conclusions concerning specific problems are not proven definitely, as

the relationship between war and criminality, war and any certain type of selection, and so forth. (See criticism in my *Contemporary Sociological Theories*, chapter VI.) However, Steinmetz is honest in his thinking, even in this portion of his work, since he carefully analyzes the facts and the theories which are contrary to his own. From a purely scientific standpoint the book is indispensable to anyone who studies or deals with war.

It required a great deal of scientific and moral courage to publish the book at the present moment when everybody and everything seem to be busy with "outlawing war." While Steinmetz praises these attempts, he also warns us on the basis of his facts that there are rather slight chances for any radical success from these efforts. "I wish with all my heart that I could hope that the people and their leaders were wiser than they seem to me. I wish I were wrong in my conclusions." But, notwithstanding these wishes, neither he nor the reviewer believes that his main conclusions are far from reality.

PITIRIM A. SOROKIN

University of Minnesota

STRATTON, GEORGE M. *Social Psychology of International Conduct*. Pp. x, 387. New York: D. Appleton and Company, 1929. \$3.00.

"There is an old saying: 'Scratch a Russian and find a Tartar.' Well may we amplify it and say 'Scratch a civilized man and find a savage.' Civilization is but skin deep." This, Professor Stratton tells us in chapter XXI, is a quotation from a booklet issued by the Government of the United States for the education of its soldiers. From the premises implied, the same publication concludes that therefore "war is inevitable."

To disqualify the psychological and the historical justification of such a philosophy, to show that war is not "a display of what is primitive, a revelation of the ease with which under excitement we forget our training and relapse into a condition of savagery," is the central idea of Professor Stratton's book. Everything may be visioned as revolving about this one aim as the nucleus of his endeavor. Like a strong

spring released from its hold, the book reveals a lot of vibrating motion, lost motion, one might be inclined to call it, were it not for the fact that, to drive home a point, the restatement of a thought in different form and context is an approved device of the experienced teacher. There is, on the other hand, much in the book that will be rejected as unconvincing by those not willing to be convinced. For this reason one would almost wish that the author had refrained from the use of statistical data in the attempts to disprove the widespread belief in the fundamental inequality of the races as demonstrated by the criteria of sense reaction, feeling, emotion, and so forth. The author himself almost invariably qualifies his statistical demonstrations by the admission of their mathematical inadequacy and logical inconclusiveness, but the persuasive appeal of his argument rests, after all, upon something far better than doubtful statistics.

The thesis of Professor Stratton's book, as understood by the reviewer, is in brief this: The proverbial pugnacity of animals is a myth. Animals prefer the kind of prey which can offer little or no resistance. They accept or seek combat with equals as a rule only when crossed in a vital biological urge. It follows that man's love for fighting is not a natural animalistic trait, but a habit, acquired in ages knowing no other means of self-defense, and sanctioned in modern society by formal and compulsory training for mass fighting and killing. Thus, fighting and killing have been raised to the dignity of a social institution because, contrary to recent belief, war has proved itself a paying proposition. Even the victors of the last war, sorely tried as they are, would none of them change lots with the defeated. The price they paid for their gains was high, but not so high that they would prefer not to have gone to war.

The basic causes for war are many. They all focus in some kind of desire, be it for security, material gain, the protection of religion, cultural unity, a particular form of government, for revenge, or vainglory. The question is: Can we or can we not find a method other than war to satisfy the legitimate elements of desire? Once upon a time, society went to war to secure prison-

ers as sacrifices for the gods. It approved of the disposal of new-born, undesired females and weakly males, of blood vengeance, of the duel, of wife-beating, and the like. With the advance of civilization the label of social institution has been withdrawn from these practices. Why, then, should not a further advance in civilization withdraw its approval of war? In fact, the last war was fought to end war. But that has been tried before, without result. To end war, the profits must be taken out of war, just as the joy has been taken out of wife-beating, duelling, blood feuds, and so on.

An essential prerequisite for this is the realization of the interdependence of all peoples, a realization which presupposes a knowledge of one another far deeper than that which the tiger has of the habits of his prey or the hunter of those of his game.

All this is nothing new, for the solidarity of nations is not something that must be established, but something that exists. What needs to be done is that it be civilized, just as the individual has been civilized as a member of society, ruled by the law of the group instead of by the law of the fist. What is needed is a training for a wider loyalty and for the reduction of the acquisitive desire. The training should be done not only by the school, but by the home, the newspaper, the bookshop, the fraternal order, the labor union, and such. Its aim shall be "not to make war impossible, but as improbable as burglary and murder."

Professor Stratton's book effectively substantiates and nicely supplements Norman Angell's *The Great Illusion*, its sequel, *The Fruits of Victory*, and Shotwell's *War as an Instrument of National Policy*. It reveals an element of insight and a degree of fairness in the judgment of international relations which is hard to match. The sections dealing with the meaning, origin, and life of the nation possess a charm and wisdom unsurpassed by anything that has come to the reviewer's notice in his long and diligent searches in the subject. The widespread reading of Angell's, Shotwell's, and Stratton's books will do more for international peace than dozens of meetings of experts and diplomatists debating juristic niceties and reservation, which are of little

interest to the fathers and the mothers of prospective cannon fodder. For it is through the extensive appeal of such books that popular sentiment will slowly but inevitably become an irresistible factor making for the establishment of institutions other than war for the settlement of international disputes.

There is in Stratton's vision nothing abstract or fantastic. His outlook is one of practical reality, though not of the kind that enables war profiteers to amass fortunes and armchair generals to shine as heroes.

JOHANNES MATTERN

Johns Hopkins University

BUELL, RAYMOND L. *International Relations*. Pp. xix, 838. Revised edition. New York: Henry Holt and Company, 1929. \$5.00.

This is a revision of a well-known book first published in 1925. The new edition contains about ninety pages of new matter dealing with the more important developments in the field of international relations which have taken place during the past four years. The larger portion of the new matter is devoted to the consideration of recent developments in the history of the problem of racial, religious, and linguistic minorities, and particularly the controversy relative to the procedure of the League in dealing with petitions from minority groups addressed to it; the work of the Sixth Pan-American Conference at Havana in January-February, 1928; the inter-American arbitative and conciliation treaties proposed by the Washington Conference in January, 1929, and the Bolivia-Paraguay dispute of 1929; the Greco-Bulgarian frontier incident and its settlement; the Hungarian-Roumanian Optant controversy; the Young Plan for the settlement of the reparations question, and the establishment of the international bank; the more recent activities of the League of Nations, the new treaties proposed by it, the admission of Germany to the League, and other changes in its membership; the Locarno agreements; the Kellogg Pact, its history, scope, objects, and its possibilities; and the Root formula for the adherence of the United States to the World Court protocol.



The discussion of these and other questions brings the book up to date and greatly increases the value of what has proven to be one of the most important contributions to the literature of international relations which has been published since the war. It is the work of a scholar; it bears the earmarks of carefulness and extensive research; and it is written in the spirit of detachment and impartiality. All students of international relations will be indebted to Professor Buell for his revision which brings up to date so useful and indispensable a treatise on a subject of such world-wide interest.

J. W. GARNER

University of Illinois

POTTER, PITMAN B. *This World of Nations: Foundations, Institutions, Practices*. Pp. xix, 366. New York: The Macmillan Company, 1929. \$4.00.

This book is a most entertainingly written introduction to the study of international affairs. Mr. Potter has hardly solved the difficult problem of interesting the layman in the politics of nations, but he has made an important contribution to the solution. His statement that international relations are "no more difficult of understanding than human affairs on any level" may be philosophically true, but he himself points out innumerable bypaths which lead to misunderstanding. His whole volume, indeed, is made up of suggestions and summaries of the enormous amount of factual material in many fields which must be mastered before anything like "understanding" is possible.

In surveying this material, Mr. Potter is eminently objective and fair. His discussion of such subjects as international law, diplomacy, arbitration, and the League of Nations would arouse no serious contradiction except among the most extreme of their devotees. He states his opinion that the United States will probably enter the League in "about 1937." This, he thinks, will be due to the natural development of our foreign policy, and he makes no argument either to hasten or to delay such a consummation. The author is a little rougher with the sentimental pacifists and his treatment of Pan-Americanism is one-sided in comparison with the rest of the book.

One theme which Mr. Potter develops perhaps as fully as is consistent with the purposes of the present book, it would be valuable to expand into a volume of its own. That is the possibility of the extension of international administration in the area where individuals and corporations of diverse nationality, rather than nations themselves, come into conflict. The relations between our own Federal Government and the citizens of the various states offer a striking parallel. Authority in this field can be delegated without derogation of the sovereign rights of states. It is being done, but the process could be hastened to the advantage of all concerned. It would do much to remove many of the minor causes of international irritation without raising such debatable questions as are implied in the words "sovereignty," "superstate," "sanctions," and "enforcement."

H. K. NORTON

New York City

SMITH, MUNROE. *The Development of European Law*. Pp. xxvi, 316. New York: Columbia University Press, 1928. \$3.75.

A title of this sort may mislead future generations, but it adequately suggests the contents of the book to present day readers who will understand it to include just what on p. xviii the author says he will discuss, that is, the private law of France, Germany, Italy, and Spain, from the break-up of the Roman Empire in the West. It is still more limited in time because the book scarcely goes beyond the Middle Ages. The treatment of the Renaissance period is slight and sketchy and no attempt is made to do more than to indicate the Bolognese movement and its consequences.

Within the limits thus consciously set, Professor Munroe Smith presents to us in rapid review the period with which his historical studies were so long engaged and in which his interest was so profound. We note with melancholy regret that he did not live to see through the press a volume which he had long intended to prepare and which might have directed more than one young historian to further and fruitful researches in the field. As it stands, even lacking the revision and completion which



he would have given it, it is almost unique, since there is no manual in English which offers a unified and systematic presentation of this field. The volumes of the Continental Legal History Series, invaluable as they are, are collections of excerpts from various authors or are different in geographical or historical range.

When Munroe Smith prepared the lectures that are here published, he was a pioneer. American and English lawyers were little concerned with the developments of legal systems under their very noses, systems doubly akin to the common law in the fact that they were fusions in different degrees of Germanic and Roman elements. How little that concern was we may to our humiliation discover by noting the absurdly inadequate and incorrect statements made about continental European law in English encyclopedias, even the best-known and the most frequently edited. Munroe Smith labored with a stiff-necked generation of deans and practitioners to induce a serious consideration of a field of study of whose very existence even legal historians seemed ignorant. Directly and indirectly, his efforts had a success—slight enough in concrete results, but gratifying in tendency. The law of all the separate communities of western Europe is now seen to have a distinct unity, based on the common civilization which we have derived from the east Mediterranean. The roots of our own most characteristic legal institutions sprawl over the map of Europe, and if we really wish to know much about them we must be content to disregard national boundaries.

Munroe Smith was in temper and affection a Germanist, and dwells with a special emphasis on the way in which the law of Goth and Frank and Lombard grew into maturity largely within Roman forms and with the reception of great masses of Roman ideas and concrete institutions. It is that which gives unity to a presentation which otherwise would inevitably be a series of detached pictures.

It also gives a special color to the account. The book is mainly the history of beginnings. The disturbances which commerce and science created in the seventeenth and eighteenth centuries, the revolutionary impetus with which the eighteenth century

ended, the tightening of economic interdependence in more recent years—all these things are not in the picture. However, those who will some day adequately present these phases of European law will first have to go through the historical material which is here sifted and summarized.

That there are questionable statements in the book is inevitable. Much has been learned since Professor Smith's material was gathered and many details of early law have taken on new aspects in the light of fuller research. The author has Maitland's impatience of anthropological analogies, but it may be that the more sober application of such analogies, which is characteristic of modern comparative law, would have roused less opposition. We note in passing that trials, which (p. 24) Professor Smith finds so rare among primitive men, are luxuriantly developed in Africa where students of procedure will find fascinating and instructive forms.

In a few cases, inaccuracies have crept in. The French rule of *possession vaut titre*, C. C. 2279, was adopted in Italy, but not, as the book says (p. 55) in Spain where the old prescription of three years is still in force (Codigo Civil, 1955). As this was taken over into the Spanish-American systems, the fact is of importance. In general, the account given of Spanish law depends largely on Schroeder, who in this field is neither clear nor quite reliable. So, the text of the *Fuero Juzgo*, published in 1600 by Villadiego, was the Spanish and not the Latin (p. 100), and this Spanish text was prepared by St. Ferdinand (Ferdinando III) in 1241, and not in 1229-1234. Similarly, there is an evident confusion of the *Lex Romana Burgundionum* with the German code of that people, the *Lex Gundobanda*, the *loi Gombette* of French manuals. Odoacer did not proclaim himself "King of Italy" (p. 77) since a territorial royal title would have directly contradicted the political notions he and his successors maintained. The family of Constantine (p. 76) was itself Illyrian and therefore did not mark the end of the Illyrian ascendancy, nor would Arian converts have any more enthusiasm for an orthodox emperor than for a pagan. All these things, and a few others like them, are obviously negligible defects.

The bibliographies have been prepared for each "book." It might be worth noting that the first volume of Brunner's *Rechtsgeschichte* appeared in a second edition in 1906, and his short *Grundzüge der deutschen Rechtsgeschichte* had a seventh edition in 1923 (Ernst Heymann). Similarly, a second edition of Schröder's *Rechtsgeschichte* appeared in 1920 (by Glitsch). One might add for Spanish law Rafael de Ureñas, *Historia de la Literatura jurídica española* (Madrid, 1906) and Fr. v. Rauchhaupt's *Geschichte der Spanischen Gesetzesquellen* (1923). Further, for the whole period one ought not to disregard Vinogradoff's *Roman Law in Medieval Europe*, now published in a second edition by F. de Zulueta (1929).

MAX RADIN

University of California

SCHEIDEMANN, PHILIPP. *The Making of New Germany: The Memoirs of Philipp Scheidemann*. 2 volumes. New York: D. Appleton and Company, 1929. \$10.00.

It is the subtitle and not the title which describes the contents of these volumes, in which Scheidemann reviews his career, and incidentally, it is true, throws some light on the passing of the Old and the coming in of the New Germany. As the work is put together from personal notes and recollections, it has a casual, unsystematic character and is wronged by being recommended to the reader as a history. So much settled, there is no reason why it may not be enjoyed for what it is. Scheidemann was the son of very poor parents; received a meager education; became a printer's apprentice at the age of fourteen; and, still in his teens, joined the, at that time, small and persecuted social democratic party. The party served him as teacher, friend, and muse through life. So thoroughly did he and it become identified that when social democracy at last grew strong enough to drive the Kaiser from his throne, it was Scheidemann who acted as its spokesman and from a balcony of the Reichstag proclaimed the republic.

Scheidemann's passionate devotion to the revolutionary cause carried him at an early age from the typographical room into the editorial office, and thence, with another bound, into politics. From the hair

of his head (non-existent with middle age) to the soles of his shoes, he presents himself in these volumes as a journalist-politician, with all the merits and demerits of the tribe. In recalling the scenes of his youth he flourishes the familiar newspaper patter which misses fire on being applied to another form of literature. Truth to tell, the book is disappointingly dull until we reach, luckily before the middle of the first volume, the outbreak of the war. From that time on the memoirist, as the leading parliamentary figure of his party, is so immersed in great events that we breathlessly relive with him all the agitated years from 1914 to 1921, at which point he cuts off the epic tale. The contribution he is able to make to our knowledge of what happened behind the scenes in a number of grave German crises is invaluable. Thus, with regard to the peace movement of the summer of 1917, he is able to pin a large measure of responsibility for its failure on the chancellor Michaelis. Again, his record of what happened within the cabinet which opened up peace negotiations with President Wilson is important. His picture of the last imperial chancellor, Max of Baden, as a kindly futile aristocrat, completely cancels the already well-established legend of him as a "red" prince. Scheidemann himself is much more of a democrat than a socialist; at least, he flares up in behalf of democracy on almost every page, while he lets us take his socialism pretty much for granted. When Russian communism invades Germany he develops a venom against it which a Krupp or a Stinnes might envy. In short, he is not a heavy Marxian pundit, but a politician formed in the school of life, flexible, humorous, and resourceful. Naturally, his memoirs profit greatly from being the product not of a closeted doctrinaire, but of a manipulator of men and situations.

FERDINAND SCHEVILL

University of Chicago

*The Soviet Union Looks Ahead: The Five-Year Plan for Economic Construction*. Pp. xii, 275. New York: Horace Liveright, 1929. \$2.50.

The magnitude of the many projects for the economic and the social development of

the U. S. S. R., as revealed in this summary of the "Gosplan," is exceedingly impressive. In five years, Soviet Russia hopes to achieve industrially what capitalistic countries have achieved only after several generations of industrialization. The national program, adopted by the government as a guide to its economic and cultural activities, provides for capital investments of upward of thirty-two billion dollars from 1928-1929 to 1932-1933, or an average annual capital expenditure of over six billion dollars.

For the fiscal year 1928-1929, it is proposed to apply forty-two per cent of the estimated national income of approximately twelve billion dollars toward the attainment of the objectives set forth in the five-year plan, while in 1932-1933 no less than fifty-three per cent of the estimated national income of twenty-six billion dollars for that year, at constant prices, is to be utilized for capital investments. The immensity of these proposed capital investments, to be saved out of national income, becomes apparent when we bear in mind that the estimated per capita income in Russia today is only about one-ninth of the per capita income in the United States. Out of the latter it is said that from twelve to twenty per cent are saved and invested in new capital annually. In other words, Soviet Russia hopes to save, by means of a rigorously controlled economy, more than twice as much per capita annually than is saved out of a per capita income in the United States, eight to nine times greater.

Offhand, this looks like a superhuman undertaking, particularly since the five-year program does not count on any extensive foreign capital investments in Russia. But, the fundamental significance of the plan lies neither in the vastness of the sums involved nor in the magnificence of its conception. It is to be found rather in the conscious attempt to regulate and to control the development of the economic resources and productive powers of a whole nation according to a preconceived plan, presumably for the benefit of the laboring masses. The program as set forth in this little volume, which is but a general resumé of the three large volumes, in Russian, containing the five-year plan, deserves the serious con-

sideration of everyone interested in economic planning of industrial activity.

KARL SCHOLZ

University of Pennsylvania

GOOCH, G. P., and TEMPERLEY, HAROLD (Eds.). *The Near East: The Macedonian Problem and the Annexation of Bosnia, 1903-1909*. Pp. lxix, 886. London: H. M. Stationery Office, 1928. 18s. (Vol. V of *British Documents on the Origins of the War, 1898-1914*).

The fifth volume of the series of British diplomatic documents in regard to the background of the World War is devoted to materials bearing upon the Near East between the years 1903 and 1909. The insurrection in Macedonia, and the inability of the Turkish Sultan to reform his administration, brought about the intervention of the Great Powers which, in turn, evolved some interesting experiments in international government. The process was handicapped by the inability or the reluctance of the Ottoman Empire to follow Western suggestions. For this reason, chapter 30 (the first of the volume) deals with the Turkish machinery of government during the period under consideration. Chapters 31 and 32 outline attempted reforms of 1903 and 1904, culminating in the labor domination of the powers at the close of 1905, from which Germany notably abstained. Macedonian problems occupy, altogether, five chapters. The remaining six chapters relate to the Balkan situation, with particular reference to the annexation of Bosnia which, along with the Young Turkish Revolution, tended to crystallize the Near Eastern problem and to widen the gap developing between the Triple Entente and the Triple Alliance. Although all of this material is presented necessarily from the British point of view, it has disclosed much documentary matter bearing upon the second European crisis of the twentieth century.

W. LEON GODSHALL

Union College

MINNEY, R. J. *Shiva; or, The Future of India*. Pp. 96. New York: E. P. Dutton and Company, 1929. \$1.00.

A British imperialist advocates an unlimited use of the "big stick" in India.

"So far," says he, "only half-measures have been taken." Like many other imperialists, he dwells gloatingly upon the alleged sexual iniquities of the Indians. "India has even greater sexual shortcomings than were noted by the author of *Mother India*."

A trivial and superficial discussion of an important subject. If the publishers can secure no better books, they should discontinue this series.

MAURICE PARMELEE

New York City

SELEKMAN, BEN M. and SYLVIA K. *British Industry Today*. Pp. 290. New York: Harper and Brothers, 1929. \$3.00.

Current information regarding a situation, the elements of which are constantly changing, is always useful. When the material has been collected first-hand and is skillfully presented a resulting book has the charm of being interesting. The Selekmans spent the year 1927-1928 gathering data on British industrial relations. They interviewed public officials, employers, and workers; visited plants; observed the operation of various shop councils and other similar organizations, and studied the public and private records. In this book they present "an exploratory survey of the field."

The General Strike of 1926 and the Mond-Turner Conference of 1928 came within a three-year period. The one was a showing of strength in an effort to force concessions for the coal miners. The other was the outcome of the acceptance by the General Council of the British Trade Union Congress of the invitation of a group of prominent industrialists for a joint study of the possibilities of coöperation in the rehabilitation of British industry. Whitley Councils, shop committees, and the British experience with unemployment insurance, are discussed in the first seven chapters. The final chapter deals with the progress and the procedure of the Mond-Turner Conference.

The book is well written in a style which lays appropriate emphasis upon major points. The index is most adequate and the reference list contains a large quantity of material which shows evidence of careful preparation. A slight feeling of annoyance

when one first picks up the book could have been avoided had the title been more accurate. A better balance in the space assigned to various topics could have been secured by condensing the two chapters on shop committees into one. The details of the plans of two companies, while interesting in themselves, seem to encroach upon space which might well have been used to expand topics such as unemployment insurance. Here only did interest lag and the impulse come to leaf ahead to the closing chapters, which proved to be just as interesting as those at the beginning of the book.

BURTON R. MORLEY

University of Pennsylvania

WATKINS, GORDON S. *Labor Management*. Pp. xiii, 726. Chicago: A. W. Shaw Company, 1928.

This book is an attempt to "analyze the problems of human relations in industry and to present those principles and methods of procedure that intelligent understanding and practical experience have proved essential to the successful management of employees." The general problem is stated to be one of industrial unrest which has evolved out of changing employment relations.

Professor Watkins presents a readable and well-organized analysis of the functioning of personnel organization in the presence of such specific problems as hiring, selecting, and placing labor, labor turnover, absenteeism, tardiness, disciplinary matters, creation of interest, wage systems, and financial incentives. Considerable attention is given to so-called "welfare work"—workers' education, housing, health, and safety. Three chapters are devoted to a consideration of industrial government.

The work is marred by the free use of what might be called "adjectives of judgment." Such phrases as "enlightened management," "progressive employers," "liberal thinkers," and "intelligent, self-respecting, modern workman," are used as if the reader needed to be fed his wisdom with a spoon. So much territory is covered that much of the treatment is far from complete.

Although those familiar with the problem



of labor management will not find that the present volume adds much to their store of knowledge, others requiring an introduction to the subject should find it useful.

FRANK B. WARD

University of Tennessee

LYTLE, CHARLES WALTER. *Wage Incentive Methods: Their Selection, Installation, and Operation*. Pp. vii, 457. New York: The Ronald Press Company, 1929. \$7.50.

The recent pronouncements of President Hoover and Henry Ford make the advent of this book most timely. The "new" economics of high wages, consumers' markets, and low total unit costs are fully explained. Employee purchasing power as a prime factor in the theory of wages is fully recognized and stressed.

Emphasis is laid upon the necessity for keeping down total unit costs. High wages are not antagonistic to this idea, and the low total costs result from the accompanying saving in overhead expense due to the high production demanded for the high wages.

Preferred numbers are advocated for wage scales and paths of promotion. Cases are cited of the application of preferred numbers to wage scales for apprentices.

The book covers the entire field of incentive plans. Twenty-five basic incentive plans for direct production are analyzed and described in detail. Group applications are thoroughly discussed, the advantages and disadvantages enumerated, and specifications for the successful application are given. Warnings are given and explained of the causes of unsuccessful applications. In addition, point systems and plans for wage incentives for the direct workers are thoroughly covered. The entire work has an adequate, but compact, historical backing.

The treatment of all plans is uniform so that direct comparison between them is easy and accurate. The advantages and disadvantages of each are clearly and impartially set forth. The underlying principles of each plan are emphasized, as are also the general characteristics, and these are amply illustrated by tables and charts. Many examples gathered from actual prac-

tice, and covering a wide range of working conditions, are cited.

A mathematical comparison of the various plans is cleverly made and illustrated by means of a diagram which shows for each plan its wage formula. These formulae are all different combinations of the same two variables, hours and wage rates.

The book is thoroughly practical and should be an invaluable aid to the executive in finding the plan best suited to his own conditions and in the installation of the plan decided upon. To the student of management, it will be found an excellent and thorough textbook which sets forth the principles more completely than in any other publication heretofore. It is written in a style that is easily understandable. The mathematical portions are simple, and are clearly set forth. An appendix explains every mathematical step that can possibly be questioned.

CHARLES N. UNDERWOOD

Philadelphia

WHITE, LEONARD D. *The Prestige Value of Public Employment in Chicago*. Pp. xix, 183. Chicago: University of Chicago Press, 1929. \$2.50.

In Europe the public official stands high in the esteem of his fellow citizens. In America, while the situation is hardly the reverse, the public official is far from being as highly considered by his fellow citizens as the average employee in private occupations. Dr. White's elaborate, analytical study, based on twenty-six hundred cases which he and his co-workers studied psychologically, as well as politically, corroborates this impression which has been generally held by students. In fact, one might say that he has established the conclusion beyond reasonable doubt. The methods of Dr. White have been original and in themselves constitute a contribution to political science, at least for those who worship at the shrine of statistics. He has endeavored to trace just what the people of Chicago think of their public servants. His premise definitely accepted for the study is that "the morale (and hence, in part, the efficiency) of any group is affected by the group's conception of its social evaluation." From this premise, he



set forth to learn as precisely as possible what the public opinion of Chicago towards its employees was and how that public opinion affected them and their work. As a result of his investigation, Dr. White points out that "the gross prestige index is -14.06, which is another way of saying that there was a generally low opinion of public servants, although one must reach the conclusion from Dr. White's book that this public opinion is based more on rumor than on actual personal experience.

It is interesting to note that those holding the city employees in lowest esteem were the literary, the well-to-do, the highly educated, and the educational groups. This was to be expected by those who have to do with public affairs and who have studied the problem at first hand in their respective communities. In reality, Chicago is no different in this respect from other large cities.

One of the most interesting phases of Dr. White's study is what he calls "word reactions," in which he tabulates the definitions given to such words as "alderman," "mayor," "policeman," "politics," and "school boards." These reflect great variety of sentiment, although there is nothing to indicate whether the replies were given in a moment of pique, of gratitude, or of normal attitude.

CLINTON ROGERS WOODRUFF  
Philadelphia

PRICE, GEORGE M. *Labor Protection in Soviet Russia*. Pp. 128. New York: International Publishers, 1928. \$1.25.

This is an interesting brief survey of the measures taken by the Soviet government to improve the status of the wage earner. It is based on a careful study of the official sources of information, supplemented by a visit of Dr. Price to Russia in the summer of 1927. Following introductory chapters describing the "Workers Under the Czar" and "Under the Provisional and Military Communist" régimes, are accounts of "Labor Unions and their Rôle in Labor Protection," "The Labor Code of 1922," "Protection of Women and Minors," "Social Insurance," "Medical Benefits," "Industrial Hygiene Institutions," and so forth.

The descriptive information is interesting and adequate. However, as regards the statistical measurement of results, Dr. Price's account has the defect of most descriptions of what is going on in Russia. There is great meagerness of information and the figures given do not seem always to tally. For example, on page 101, we are told that the total expenditures for social insurance in 1926-1927 were about 700,000,000 rubles, also (p. 103) that in 1926, 38,700,000 rubles were paid out as cash benefits for the employed, and that eleven per cent of the total, or 77,000,000 rubles, was expended for the unemployed. Later it is stated that 240,000,000 rubles were paid for temporary disability and 250,000,000 rubles for medical assistance. The amount left for other benefits would average only about fifteen rubles per capita for the 9,000,000 workers said to be included in the system, which suggests rather meager actual provision. The difficulty appears to be that Soviet statistics, nearly always given in round figures, lack the precision that students crave. Also, it appears to be the case that lack of funds often prevents the putting into practice of the admirable plans which are embodied in the official regulations for the benefit of wage earners.

Conditions are changing so rapidly in Russia that it is to be hoped that Dr. Price may be able to make another visit to that country and bring out a new edition of this useful book which will provide fuller statistical information, verified on the spot, and also bring the story down to date.

HENRY R. SEAGER

Columbia University

PERSON, H. S. (Ed.). *Scientific Management in American Industry*. By the Taylor Society. Pp. xix, 479. New York: Harper and Brothers, 1929. \$4.00.

To survey the spectrum of industrial management between two covers is no mean task; to make such an attempt through the medium of twenty-six contributors who deal independently with twenty-nine topics would seem unwisely ambitious. Nevertheless, the book has an integral resonance. True, the classification of subjects groans at times under its load, as would any conceivable grouping which

must bring into linear sequence points related to one another along several axes. But, the book holds to its course surprisingly well, and the subject matter passes from introductory chapters to considerations of research, standards, control, and human relations. No generic idea of the content can be incorporated in so brief a review. High lights of unique value to the student of management are: the distinctions drawn between scientific management, mass production, and rationalization (p. 14); the brilliant exposition of administrative research and its possibilities (p. 43); the historic sketch of the beginnings of market data research (p. 59); the comparisons of theories of organization (p. 136); the description of the new function of merchandising (p. 163); the administrative use of "responsibility" accounting in its relation to flexible budgeting (p. 271); the problems of leadership under scientific management (p. 427); and the interpretation of Mr. Taylor's labor philosophy (p. 460). These excerpts complement the careful descriptions of method and examples of actual installation to which the text is largely devoted. Discrimination in the organization of the bibliographies which close each chapter is obvious.

The not infrequent differences of viewpoint between authors prove to be a strong virtue of the book when considered as a teaching medium. These variants serve to free the text from the atmosphere of certainty, common to books on this subject, which stifles the precious curiosity of the student.

Any business executive who is willing to arm himself with a pad and a pencil, to turn to that section which nearest approaches his area of concern, and to follow the precepts of Abbe Dimnet and use the book as an "adjuvant to thought" will find the text highly stimulating and suggestive.

ERWIN H. SCHELL

Massachusetts Institute of Technology

HARING, CHESTER E. *The Manufacturer and His Outlets*. Pp. xii, 190. New York: Harper and Brothers, 1929. \$3.00.

Above all else, the manufacturer should know how his outlets will be affected by the

widespread changes now sweeping through our marketing system.

Mr. Haring's very readable book appeared originally in multigraphed form for the use of the salesmen of a manufacturing concern. It is a popular treatise of the development of new-type retailers, their advantages and disadvantages, and their effect upon the jobber system of distribution, all of which has been covered in standard marketing texts.

Omission of a careful consideration of the specific effects of the changing nature of outlets upon the manufacturer, and the inadequate treatment of voluntary chains, is regrettable.

The volume should appeal to those in contact with the field of marketing who have not had the opportunity to study closely its broader aspects.

RALPH F. BREYER

University of Pennsylvania

BOGART, ERNEST L., and LANDON, CHARLES E. *Modern Industry*. Pp. x, 593. New York: Longmans, Green and Company, 1927. \$3.75.

This book, as intended, is descriptive of modern industry. It discusses primarily the manufacturing of goods. It touches lightly the subjects of transportation, money, and markets. It gives to those who desire the opportunity quickly to acquaint themselves with the elementary processes of production in our most important industries preparatory to a study of the principles of economics.

It is written in textbook form, with suggestive questions at the end of each chapter, making it very adaptable to secondary school courses, as well as freshman courses in colleges.

F. S. WARNER

University of Pennsylvania

HALL, LINCOLN W. *An Approach to Definite Forecasting*. Pp. ix, 142. Philadelphia: University of Pennsylvania Press, 1929. \$3.00.

This book presents the results of experiments to develop a new method of forecasting in *definite* numbers. The attack is through the isolation and analysis of the forces affecting individual time series, but

the process suggested is quite new and the author succeeds in avoiding the use of the usual mathematical symbols which only terrify the uninitiated and leave them skeptical. He proceeds first to construct hypothetical time series, made up in such a way that the values of the trend, cycle, and seasonal factors are controlled, and then to develop simple methods of determining each force separately and comparing it with the known measurements. Actual observed time series presenting peculiarities of fluctuation are also subjected to the analytical process in order to test the new methods where the forces affecting the series are uncontrolled.

It is to be hoped that this interesting approach will be followed by other researches along the same line. Comparison of results secured by the usual methods with those secured by Professor Hall's methods would be interesting.

D. H. DAVENPORT

Columbia University

MCMILLEN, WHEELER. *Too Many Farmers*. Pp. xi, 340. New York: William Morrow and Company, 1929. \$2.00.

This is a disappointing volume, preceded by a platitudinous foreword by the former Secretary of Agriculture, William Jardine. The book itself makes uninteresting reading and is of a disjointed style, with much of it in the tone of a farmers' club discussion. The title is interesting and leads one to expect an analysis of the farm problem based on overproduction by too many farmers.

In one of the early chapters the author does come to grips with his thesis: "The farms are full of farmers who are unnecessary. Or, more accurately, the business is suffering from (among other things) over-extension. Lands are in cultivation that ought not to be farmed under present conditions. Marginal lands, marginal farms, both interfere with agricultural prosperity. About one-fourth of the nation's people are farmers. Only 15 per cent ought to be farmers. Ten per cent might be enough, if all were to follow the best practices with the best equipment."

Here is a pregnant thought which we should like to have seen, established, and

developed. However, at this point the author leaves this thesis and rambles all over the agricultural field. He does not expect much from the Farm Board; there is a rather inexpert discussion of the tariff as it affects agriculture; he is impressed with the efficacy of the export debenture plan and wants to improve the wisdom of the country banker, and in general, bows in admiration before all governmental agencies, such as the farm loan banks, the joint stock loan banks, the agricultural colleges, and the erudite and manifold contributions of the Department of Agriculture.

BERNHARD OSTROLENK

New York City

COMISH, NEWEL H. *Coöperative Marketing of Agricultural Products*. Pp. xxii, 479. New York: D. Appleton and Company, 1929. \$3.50.

Professor Comish has been teaching coöperative marketing at Oregon State College for the past twelve years, during which time he has been acting as a director and technical adviser to coöperative associations. His book is divided into four parts. The first deals with the history and the functions of coöperatives in thirteen major commodities, and contains also a chapter each on "Some Marketing Problems," "Coöperative Purchasing," and "Miscellaneous Coöperative Associations," taking up, in all, about one-half the text. This is followed by Part II, on "Special Coöperative Problems," such as price, pooling, advertising, marketing costs, and legal problems. General farmers' organizations are described in Part III. The book concludes with a statement of the principles of successful coöperative marketing and the progress of this movement.

In a general work of this kind it would be difficult indeed to contribute much to the wealth of information already available upon this subject. However, Professor Comish has carefully gleaned the best from all these data, condensed it into "meaty" form, and presented it in a clear and interesting manner. The limitations of space have compelled a somewhat brief treatment at times. The omission of a detailed discussion of the attempts to organize national

business coöperatives is unfortunate, in view of their possibilities under the Agricultural Marketing Act. The range of the work and its critical and constructive treatment of concrete cases afford a sharply-etched perspective of coöperative marketing in the United States. Questions and problems are appended to each chapter and a fine bibliography is given at the end.

The book is to be highly recommended as a text for courses in coöperative marketing, for which purpose it was evidently primarily designed.

RALPH F. BREYER

University of Pennsylvania

GOLDSTEIN, B. F. *Marketing: A Farmer's Problem*. Pp. xiv, 330. New York: The Macmillan Company, 1928. \$3.50.

The subject matter of this book is not properly represented by its title. It is mainly a history of the elevator problem in Chicago. From the days when that city boasted a population of one hundred thousand to the present time, there have existed conflicting interests in the handling of grain through the Chicago market. Laws were passed in the sixties regulating the railroads and public warehouses of the state. In the State Constitution of 1870, through the aggressive action of the farm element, several articles were included defining public warehouses and the manner in which they were to be operated. In the late eighties and the nineties, a bitter fight was waged by the commission firms of the Chicago Board of Trade against the elevators in defense of their position in the handling of grain through Chicago.

These problems, in all their varied phases, Mr. Goldstein has carefully traced and fairly weighed. His training as a lawyer, and his experience with the recent Illinois Legislative Grain Marketing Investigating Committee as its Special Counsel, has admirably fitted him for this field. To a large extent the problems have been legal in character. The work is brought up to the present time, with a review of the recent Illinois Warehouse Act of 1927 and the present position of the Board of Trade regarding the Chicago elevator situation.

G. WRIGHT HOFFMAN

University of Pennsylvania

LYON, LEVERETT S. *Some Trends in the Marketing of Canned Foods*. Pp. 63. Washington: The Brookings Institution (Pamphlet Series, vol. 1, no. 4), 1929. 50 cents.

This pamphlet is a study of hand-to-mouth buying, its prevalence, and effects, in the canned foods trade. It is largely an outgrowth of Lyon's more comprehensive work, *Hand-to-Mouth Buying*. The scattered data on canned foods in the larger volume have been brought together in compact form. In addition, the pamphlet presents more detailed analysis of the experiences of individual companies.

RALPH F. BREYER

University of Pennsylvania

LOWIE, ROBERT H. *Are We Civilized? Human Culture in Perspective*. Pp. xiii, 306. New York: Harcourt, Brace and Company, 1929. \$3.50.

Professor Lowie's book is a convincing vindication of the use of the comparative method in anthropology. This method of picking and choosing from any people, at any time or place, the custom, habit of mind, or trick of technique needed to prove a special thesis, has come of recent years into disrepute. Historical students have claimed that a trait so abstracted from its cultural setting presented skewed and inexact evidence. But, this is only true when the theoretical drive of the comparative student is either to find fundamental laws or inevitable sequences in human history, or when the investigator seeks to bend the chance-chosen facts of other societies into our own patterns. Professor Lowie has chosen to document the two points which are the legitimate offspring of the comparative method—the essentially random, bungling, unequal, lopsided, sporadically brilliant, habitually imbecile fashion in which man solves his problems, and second, how these same problems are so similar that the chapter heads, which Professor Lowie has piously preserved from the traditional monograph form, fit any society from the Andamanese to the Greeks. With a comprehensive grasp of his material which permits the reader to take any special fact without question, the author relentlessly, jibingly presents the story of



man's confused stumbling progress and of the dependence of any group of people upon their location in time and space. He shows how the "higher civilizations" borrowed from the "lower," how enormously the West has borrowed from the East, how impossible it is to associate any stage of cultural development or special proficiency with any racial group.

The book is not written for anthropologists, nor for those students of social history familiar with ethnological literature. It reiterates points which are the groundwork of modern anthropological thought; it raises no new points; and it neglects the subtler problems of culture to emphasize the broad, miscellaneous, general stream of cultural development. But, it is a book upon which anthropologists will rely to educate their students, to enlighten their skeptical friends, and to intimidate their dialectical opponents who make exorbitant claims for any one people's cultural genius. The book will the more readily commend itself to the lay reader because Professor Lowie has taken the trouble to unearth a mass of amusing data about the lamentable state of manners and morals in medieval Europe. The lack of sanitation and sense displayed by our immediate forefather is enlisted to prove that human culture is one and that no people at any time rank first in every trait, even when our narrow culturally-determined standards are applied. The book is written with a spirited attempt to synopate the solid reliable notes which Professor Lowie cannot fail to strike, even in a venture as gay as *Are We Civilized?*

MARGARET MEAD

New York City

SCHULER, MAX. *Mensch und Geschichte*. Pp. 60. Zürich: Verlag der Neuen Schweizer Rundschau, 1929. 6.25 francs.

BURCKHARDT, JACOB. *Griechische Kulturgeschichte*. Edited by Rudolf Marx. 3 volumes. Leipzig: Alfred Kröner Verlag, 1929. M.17.

STEINHAUSEN, GEORG. *Geschichte der deutschen Kultur*. Pp. x, 685. 3rd edition. Leipzig: Bibliographisches Institut, 1929. M.26.

The study of culture in the forms of culture history and cultural sociology is in full

swing; each succeeding issue of the learned journals bears increasing witness to this fact. Not only this; the study of culture by quantitative methods is similarly on the upturn. That this is a valuable trend, few would deny; certainly not the present reviewer. True it is, however, that certain inevitable limitations attend the use of the quantitative method, and that these limitations are frequently denied by the more enthusiastic statisticians.

The most obvious of limitations is the newness of the quantitative (or merely numerical?) emphasis. What are we to say about the value of culture history for an understanding of human nature? Here is a discipline that in the very nature of the case cannot proceed quantitatively. Even *Middletown* shows that. How much more is this apparent when we focus upon past cultures! Are we to disregard entirely the vast deposit of material couched in qualitative terms, or are we to make what use of it we can? The depth or shallowness of future American sociology depends on the answer.

The volumes under review, of course, make no pretensions to quantitative method inasmuch as they deal with the theory of history and the culture history of Greece and Germany.

Scheler's *Man and History* is a reprint of an article which appeared in *Die Neue Rundschau* for November, 1926. It is an extremely short sketch of certain points which the author hoped to develop at greater length in his *Philosophical Anthropology* (he died in May, 1928, before he could complete the latter work), but is none the less important.

The basic idea is the necessity of a history of man's beliefs concerning his place in the cosmos, "a history of the ideal-typical forms in which he thought of himself and his place in the order of being," as an indispensable prelude to any intellectual or cultural history.

Scheler lists five of these forms: (1) man as sinner, as a constitutionally antisocial being, a conception which forms the basis of the "that's human nature" arguments against coöperative endeavor; (2) man as a rational being distinct from the animal world by virtue of his participation in the



supersensual Reason; (3) man as a hand-minded animal whose central nervous system is different from other animals only in degree and not in kind—the *homo faber* of the naturalists; (4) man as “a species of predatory ape afflicted with megalomaniac delusions as a consequence of the overdevelopment of ‘mind’” (Theodor Lessing); and (5) man as the transitional stage to the Nietzschean superman, who alone gives meaning to history.

All five of these forms still exert an influence on modern scientific thought, as Scheler shows, although it must be said that the fourth and fifth are at present confined to Germany, if one excepts Spengler and Friedell, who have recently been published in English translation and who represent the fourth ideology. To the sober American scholar all this sounds a bit wild, but the significant thing is that Germany, Switzerland, Italy, and Spain abound in responsible university professors who take “the shift in the historical consciousness” (a phrase used by the present German Minister of Education) quite seriously, and who seriously doubt the possibility of an objective history in the Rankean sense (*wie es eigentlich gewesen*). Surely the sociologist, the arch-objectivist, must sooner or later orient himself with reference to this new and surprising trend of thought.

The works of many half-forgotten scholars are experiencing a revival as a consequence of this trend. Not least among them is Burckhardt's *Cultural History of Greece*, which for many years has received little attention because of certain supposed inadequacies in the sources used, in spite of the fact that it is admittedly the best total portrait of the Greek culture that has ever been written. Not only this, it contains the best treatment of the sociological processes leading to the breakup of the Greek world with which the reviewer is familiar; not even the more recent writers, Beloch, Curtius, Kaerst, and Meyer can compare with Burckhardt's simple yet acute presentation. The present edition is cheap and excellently bound and printed. It deserves a wide sale.

A work that does not have the plastic unity of the foregoing, but which is nevertheless highly important to the sociologist

who really wishes to understand modern peoples as well as he thinks he understands the Arunta or Urok, is Steinhausen's *Cultural History of Germany*. It is by far the best single-volume work to be had, and although the present (third) edition is highly compressed as compared with the 1913 two-volume format, very little that is essential to the understanding of German culture has been omitted. Especially important are Steinhausen's chapters on “The Transitional Period” (transition between the Middle Ages and early modern times) and “The Secularization of German Culture as a Result of Foreign Influences.” No cultural sociologist who looks beyond his own time and culture should neglect this book!

It is to be hoped that the recent shattering of the myth of social evolution will lead scholars to cease their undue attention to preliterates, these supposed representatives of earlier stages in our own social development, and will enable them to see Western culture in its proper perspective, undimmed by Australian analogies and Amerindian “prototypes.”

HOWARD P. BECKER

University of Pennsylvania

LUNDBERG, GEORGE A., BAIN, READ, and ANDERSON, NELS. *Trends in American Sociology*. Pp. xii, 443. New York: Harper and Brothers, 1929.

I did not ask to review this book. Although six of the ten authors were graduate students of mine, I think I can be impartial. Nine aspects of sociology—theory (by Bain), social psychology (by John F. Markey), cultural sociology (by Dorothy P. Gary), rural sociology (by C. C. Zimmerman), urban sociology (by Nels Anderson), educational sociology (by D. H. Kulp II), social work (by H. A. Phelps), applied sociology (by Read Bain and Joseph Cohen), and sociological methodology (by Lundberg)—preceded by an introductory chapter on the history and prospects of the subject (by Jessie Bernard), are treated in monographs averaging forty-four pages in length. Some readers will probably ask why the sociology of religion, human ecology, political sociology (not much known in this country), biologi-

cal sociology, and so forth, were omitted; but the editors' introduction does not enlighten us. The chapter on urban sociology, as treated, is, however, largely an exposition of the human ecology of the city.

This attempt of a group of the younger sociologists to set forth "the domains and methods of sociology" is, I think, worthy of close reading. It is to be expected that the several chapters would be of unequal merit, and there appears to be a lack of unity in the mode of treatment. The chapters on the history, the theory of sociology, social psychology, cultural sociology, and educational sociology are handled primarily historically and analytically, constructive summaries being placed at the ends. The chapters on rural and urban sociology appear to be primarily pleas for the authors' particular schools of sociology, however good these may be. The other remaining essays combine in different degrees the other two methods of treatment. The brevity of the treatments, of course, leaves much to be desired, but from the volume as a whole a pretty adequate conception of what is doing in current sociology in the United States can be obtained. The greatest single weakness is, perhaps, the fact now and then more or less painfully evident that some of the writers have not covered all of the important literature in their fields or have not penetrated to the depths of its import or detected its fundamental defects and weaknesses. But, withal, it is unquestionably by far the best thing in sociology in the United States now in print. It is almost the only thing of any size and comprehensiveness. It argues well for the future of sociology in this country that it should be a younger group that has thus taken stock—and that they should be so critical. It is to be regretted that the treatment (with the exception of the paper on history and prospects) should have dealt so exclusively with theories and so little with courses, departments, personalities, and the politics of the subject; for these are the body of sociology, if indeed theory be its soul. But, space and time are perhaps good alibis.

L. L. BERNARD

Washington University

SOROKIN, PITIRIM, and ZIMMERMAN, CARLE C. *Principles of Rural-Urban Sociology*. Pp. xv, 652. New York: Henry Holt and Company, 1929. \$4.50.

Sorokin and Zimmerman's *Principles of Rural-Urban Sociology* is not exactly the sort of book that the title would lead one to expect. It is primarily a compendium of information—chiefly statistical in character—about rural and urban populations, with special emphasis on the differences between the two. We are informed in the authors' preface that, comprehensive as it is, this volume is only a summary of a forthcoming three-volume Source Book in Rural Sociology which they have prepared in collaboration with Dr. C. J. Galpin, of the United States Department of Agriculture.

In its general plan and method of treatment, this book is precisely what one would expect from authors who believe that statistical material and statistical procedures should be the chief reliance of social science. The data have apparently been collected with great industry and thoroughness, and they cover the entire globe as completely as is possible in the present stage of development of local and national practices of registration and publication of social and economic data. The data have, furthermore, been subjected to painstaking critical examination, and to various procedures of analysis, correlation, and the like. When it comes to fundamental explanation, on the other hand, reliance is placed almost entirely on common knowledge and the methods of common sense. One feels that, while the material brought together in this volume will be invaluable to those undertaking research studies in the general field, it will be a very difficult book for teachers and students to use in ordinary college and university classes. More time than the usual university course affords would be required for even a moderately careful consideration of the mass of partially digested material contained in this book. If the statistics were supplemented by concrete case histories and analyses, more light would be shed on the basic processes by which rural-urban differences and relations are created, maintained, and modified.

Many of the generalizations formulated are so obvious to any moderately well-in-

formed person that one can scarcely see the necessity for the elaborate compilations of evidence by which they are supported. The text is marred by crudities of expression, and there is some evidence of hasty proofreading. There are separate indexes for subjects and authors, but the subject index is only moderately comprehensive. As a reference work, this will be a valuable addition to many libraries.

*Principles of Rural-Urban Sociology* may be cited as convincing proof that there is an enormous body of material available for the study of rural life and the differences and relations of country and city. What is needed is reflective scrutiny of the materials in their most concrete form, for the sake of establishing more penetrating insights into the natural processes in terms of which they can be understood.

FLOYD N. HOUSE

University of Virginia

LIBBY, WALTER. *Introduction to Contemporary Civilization*. Pp. xiii, 272, xix. New York: Alfred A. Knopf, 1929.

HAWKES, ERNEST W., and JOHNS, RALPH L. *Orientation for College Freshmen*. Pp. viii, 310. New York: The Ronald Press Company, 1929. \$3.00.

The diversity of materials that may conceivably be regarded as essential for the equipment of "aspiring youth of the twentieth century" is well illustrated by these two recent additions to an already large list of so-called orientation textbooks.

In a series of thirty brief chapters of pertinent information, Dr. Libby exposes the freshman to a wide panorama of epitomized knowledge. He does very successfully what he sets out to do, namely, to enable students upon entering college "to transcend the limitations of their special studies and to reach a point of vantage from which to survey not merely one phase of contemporary life, but a wide range of its inter-related phases." The first twelve chapters of the book deal with the development of various occupations, characteristic of modern civilization; the last eighteen deal with "the imponderable elements of contemporary civilization." Some very fine chapters on democracy, nationalism and internationalism, and the psychology of research, are found in this section of the book. The

evolutionary or developmental point of view can be traced throughout the work.

*Orientation for College Freshmen* is a somewhat different type of textbook. The problem method is utilized. Sufficient materials are given to promote discussion with a view to help the student formulate an opinion. The book purposes to aid the entering freshman in his adjustment to two things: first, the problems relating to college life and methods of study; secondly, orientation to life aims, or vocational selection. This text should prove stimulating and practically helpful to the bewildered first-year man. A strong feature of both books is the appended list of exercises and references, which can be made to serve useful pedagogical ends.

RALPH P. HOLBEN

Dartmouth College

DONOVAN, FRANCES R. *The Saleslady*. Pp. xi, 267. Chicago: University of Chicago Press, 1929. \$3.00.

This book is a first-hand account of life as seen from behind the counters of our large department stores. In a sense, the term "saleslady" gives a wrong impression of the contents of the book; it really is a series of impressionistic jottings related to the rôle of women in department stores—buyers, supervisors, wrappers, personnel managers, customers, and managers' wives. Indeed, if one were to concentrate on the "daily observations" that dangle obtrusively on the end of each chapter, one might be tempted to call the book "Dorothy Dix in a Department Store"; or on the other hand, if one were to focus on the sentimental aspects of some chapters, one could not be blamed for some such title as "Beatrice Fairfax and Love's Young Dream."

The author has been a participant observer, as Park aptly notes in the preface, but a certain artificiality in her "participation" has not been noted. She went to work as saleswoman with the definite intention of writing a book about her experiences; she never really participated at all. One could demonstrate this fact by word-for-word quotation at many points; there was always the consciousness of not belonging, of being a reader of *The New Republic* and similar top-loftical journals, of being on the outside, looking in. There is a bit too

much effort at *camaraderie*, too much of the "us girls" note for it to be fully convincing. In short, the book is a hybrid—neither detached observation, nor a genuine record of emotions personally experienced. Instead, we get the feeling that "it was all *so* interesting"; one is reminded of slumming parties surreptitiously indulged in with the object of demonstrating one's broadmindedness by later recounting retouched experiences to friends as incurably *bourgeois* as one's self. Then, too, one can philosophize, as the following excerpt shows: "It would seem that the fate of the department store girl is like that of the rest of the world. She meets success or failure, good fortune or tragedy; in short, her fate is the common fate of all."

Now, in spite of all these shortcomings, the book is worth reading. The sociologist, in particular, can learn a great deal about the process of institutionalization that is so rapidly counteracting the individuating processes of the large city. The department store, as the author rightly points out, is one among the many city institutions that are becoming communities with rules, regulations, beliefs, and conventions which discipline and control their members. The section on "Songs of the Saleslady" is especially valuable from this point of view. Important, also, is the emphasis on the importance of gossip as an agent of social control; indeed, this is one of the best points of the book, and is buttressed by literally hundreds of concrete instances.

In 1920, the same author produced a book called *The Woman Who Waits*, which, in the present reviewer's estimation, had most of the virtues of *The Saleslady* and practically none of its defects. Let us hope that when another book by the same author appears that the older model will be followed, for it is worth following.

HOWARD P. BECKER

University of Pennsylvania

HURLOCK, ELIZABETH B. *The Psychology of Dress: An Analysis of Fashion and Its Motive*. Pp. viii, 244. New York: The Ronald Press Company, 1929. \$3.50.

With the exception of a short chapter on the origin of clothes, this book is concerned exclusively with the wagaries of fashion.

The analysis of the motives behind fashion is not very penetrating. We are told, for example, that "fashion is largely a manifestation of the herd instinct to follow the leaders." On the descriptive side the book is much richer; it provides entertaining illustrations of styles, and traces many of them to their historical sources. Much of the material illustrates what Tarde called the law of the descent of imitation. There is a bibliography, but none of the statements in the body of the text is specifically documented, with the result that the book takes on a popular character. The profusion of concrete instances will give the student an indelible impression of the erratic course of fashion, but the teacher will need to deepen at many points the analysis of its origin, spread, and decay.

GORDON W. ALLPORT

Dartmouth College

LYNCH, DENIS T. *An Epoch and a Man: Martin Van Buren and His Times*. Pp. ix, 566. New York: Horace Liveright, 1929. \$5.00.

In *An Epoch and a Man*, Denis Tilden Lynch has endeavored to give us a picture of the life and times of Martin Van Buren. The result is unsuccessful, not as a desecration, but rather as a desiccation. Mr. Lynch has a positive talent for dilution; so that as I read these earnest, but tepid pages, it was only by an effort that I realized how colorful was the panorama he has tried to reconstruct.

Pretty exciting stuff, the struggle between Jackson and Biddle over the charter for the United States Bank, wasn't it? Not at all! Just an argument between two clerks over some petty cash vouchers! How about the famous banquet at which Jackson proposed the toast, "The Union—it must be preserved!" and cast such panic into Nullification ranks? You are a man of the world; you know what these after-dinner speeches are! The rising tide of rancor over the whole slavery issue? Aren't they always having arguments in Congress and getting themselves hot and bothered about something or other? The financial panic of 1837? Those were difficult times, I guess; and lots of people must have found it pretty hard sledding.



With the possible exception of the story of the anti-Federalist riots at Baltimore in 1812, the vigor and passion have been patiently extracted from those vigorous and passionate times by a scholarship without imagination and a style without spice. Van Buren was not a great man, but his importance has been vastly underestimated. Accordingly, he needs more than a biographer—he deserves an advocate. Mr. Lynch has ploddingly done his duty as the one; he has failed utterly as the other.

ALPHONSE B. MILLER

Philadelphia

PELL, JOHN. *Ethan Allen*. Pp. xii, 331. Boston: Houghton Mifflin Company, 1929. \$5.00.

The general reader remembers Ethan Allen in connection with his famous demand at Ticonderoga. Mr. Pell, who knows Vermont intimately, draws the portrait full length, sympathetically, but without prejudice or overemphasis. He pares away tradition to its core of fact. He refuses to blind himself to the faults of this backwoods land owner and soldier.

The book is written without footnotes, but Mr. Pell's bibliography is extensive and he appends a chronology and a set of notes which run to thirty-six pages.

DOUGLAS L. HUNT

Birmingham-Southern College

MOSHER, WILLIAM E., et al. *Electrical Utilities: The Crisis in Public Control*. Pp. xx, 335. New York: Harper and Brothers, 1929. \$4.00.

Even a casual reading of this volume on *Electric Utilities* suggests the thought that the authors had a fairly definite, predetermined opinion favoring some form of public ownership for the electric utilities rather than private ownership and control by state public utility commissions. This opinion seems to be confined to the electric utilities and apparently does not include all utilities, for the telephone utility is cited as one that has stood "squarely for a policy of public service." The inference, naturally, is that the electric utilities have not.

To one familiar even to a limited extent with the real accomplishments of the electric light and power industry, it seems evi-

dent that this book has been written from a viewpoint entirely outside the industry. This theory comes to light particularly in the chapter on the "Attitude of the Public Toward Control," which is a one-sided review of the recent Federal Trade Commission's investigations into the publicity activities of a number of power companies.

The first half of the book is devoted to a detailed description of the growth of the utility system, its method of control, and to somewhat heroic interpretations of the Supreme Court decisions which have guided the lower courts and the public service commissions in their decisions. It is found that these lower bodies have been guided, apparently in error, by the dicta of the decisions rather than by what the court actually did.

Holding companies and interstate transmission of power are discussed at length and developed into factors which, taken all together, lead the authors to believe that a crisis in public control has been reached. The dispute in these chapters chiefly revolves around the "prudent investment theory" as against "reproduction new, less depreciation" as a basis of rate-making, and the fear that holding companies have somehow introduced a circumvention of public control.

The latter half of the book is devoted chiefly to a discussion of several means of public control, among which are control through state or nation-wide contracts, public competition, by a league of municipalities, through a national planning commission, and finally through national ownership. This latter would be accomplished, according to the authors, by development of the present remaining municipal systems or by national purchase of all the light and power companies as they exist today. Even the authors are not overly enthusiastic about the practicability of any of these schemes. Unquestionably, they have leaned backward to throw the maximum weight into their arguments. Therefore, if read with the appreciation that it presents only one side of the case, this book can be commended as one carefully prepared for such a specific purpose.

JOHN A. DEWHURST

New York City



**TRIBOLET, LESLIE B.** *The International Aspects of Electrical Communications in the Pacific Area.* Pp. vi, 282. Baltimore: The Johns Hopkins Press, 1929. \$2.50.

Dr. Tribolet's monograph is a systematic and well-documented, and, on the whole, a useful discussion of the development and present status of the electrical communications services in the Pacific area, with particular reference to the manner in which they affect and are affected by the political and commercial interests of the United States.

The volume is timely, but it suffers from the disadvantage of having been written at the moment when the American communications companies were most active in projects for the unification and extension of their services, and before the full scope of these plans had been developed. It is to be hoped that later printings of the volume may include a supplemental chapter on these new developments as described and forecasted by Mr. Owen Young in his recent testimony before the United States Senate Committee.

The discussion would be improved by distinguishing more clearly between the vital and intense English interest in British Empire communications, and the much more moderate, and in no way abnormal, English interest in communications in general, as related to trade development. Certain omissions in the volume might also have been avoided if the writer had consulted more freely with responsible officers of the communications companies. As a particular example, the management of the Commercial Pacific Cables is, and has been from the beginning, absolutely in American hands, regardless of foreign participation in the ownership.

M. C. RORTY

New York City

**PFEIFFER, ALEXANDER.** *New York Law of Real Estate Brokerage.* Pp. xii, 140. New York: The Ronald Press Company, 1929. \$4.00.

Mr. Pfeiffer's book on *New York Law of Real Estate Brokerage*, as the title suggests, deals with the New York law as developed

from adjudicated cases on real estate brokerage in the State of New York.

This book, however, by reason of its excellent analysis and diction, and further, by reason of the many general and uniform principles concerning the law of agents and brokers, should be exceedingly helpful to brokers in other states in shaping the proper attitude and relation of the broker to the seller, to the buyer, and also to his fellow brokers.

The volume will be very helpful and suggestive to instructors in our universities in presenting courses on the subject of real estate brokerage. Mr. Pfeiffer's analysis of the subject may readily be followed with such modifications as the law of other states may require.

S. HOMER SMITH

Temple University

**HYPPS, FRANK T.** *Federal Regulation of Railroad Construction and Abandonment under the Transportation Act of 1920.* Pp. 82. Philadelphia: University of Pennsylvania Press, 1929.

Sufficient time has elapsed since the passage of the Transportation Act of 1920 to permit an analysis of the policies followed, and a survey of the results achieved, by the Interstate Commerce Commission in the exercise of some of the new powers conferred upon it by that statute. This doctoral dissertation by Mr. Hypps deals with what the Commission has done under the authority it received to regulate the construction and the abandonment of railway lines.

The study discusses the legislative provisions upon which the Commission's power is based, the form of procedure adopted by the Commission, the points of conflict between state and Federal authority, the considerations which have governed the Commission in granting or in withholding permission to build new lines or abandon old ones, and the actual results obtained in terms of mileage of railroad authorized and mileage abandoned. Mr. Hypps has obviously studied his problem carefully; he has organized his material well; and has for the most part presented it in a satisfactory manner.

He believes that Federal control of rail-

road construction is highly desirable, and thinks that the new policy has already been of much benefit. One wonders, however, how his study of the virtually arbitrary control of economic enterprise by administrative commission led him to make the statement that "railroad regulations in the United States have as their purpose the perpetuation of ideals and standards attained in the field of natural competition."

The bibliography, giving as it does only the initials of authors who invariably appear by full name on the title pages of their books, failing to give the places of publication of works named, omitting page references which plainly should have been given, and listing under "other sources" publications lacking the most ordinary marks of identification, betrays a slovenliness of workmanship which in a doctoral dissertation is inexcusable.

T. W. VAN METRE

Columbia University

HENRY, ARNOLD K. *The Panama Canal and the Intercoastal Trade*. Pp. 108. Philadelphia: University of Pennsylvania Press, 1929.

Of the thirty million cargo tons (2,240 pounds) of commercial traffic through the Panama Canal in 1928, ten million tons were in our intercoastal trade. Over one-half of this intercoastal traffic is oil and lumber, moving from the Pacific to the Atlantic. The other half is about equally divided between East and West traffic in general commodities.

The excess westward tonnage available creates serious problems. In spite of numerous conferences among intercoastal steamship companies, there has been keen rate competition for the low-cost westward traffic. This has deprived the railroads of any significant share in the coast-to-coast freight. One western road estimated that without increasing train miles or train crews it could in ten months have carried five hundred thousand additional tons west bound; another a million tons.

The railroads are forbidden to own steamships to compete with water routes and, under the "long and short haul clause" of the Act to Regulate Commerce (1920), may not reduce transcontinental rail rates

to permit competition with ships. From five hundred reports received from traffic managers in nine Middle Western states and Pennsylvania, Dr. Henry presents revealing statistical material on the means of transport used to Pacific markets, giving their reasons for the selection. The usual deciding factor is the rate. With brevity and lucidity, he states the problem of both the railroads and the water carriers.

A suggested basis for coordinating these transport facilities has been to transfer supervision of the water routes from the Shipping Board to the Interstate Commerce Commission. This Dr. Henry does not endorse, but he suggests four revisions of the laws affecting intercoastal carriers by water, the adoption of which would at once increase the profits and the security of the water carriers and give the railroads a fairer share of this traffic.

C. B. GOSHORN

Philadelphia

WRIGHT, BENJAMIN F. *A Source Book of American Political Theory*. Pp. xi, 644. New York: The Macmillan Company, 1929. \$3.75.

This is a collection of the opinions about the state and government held by American parsons, politicians, judges, and scholars, from the days of John Cotton and Roger Williams to the more spacious days of Alfred E. Smith and Justice Holmes. The selections set forth *ideas* about government rather than *theories*, since few of them present a well-rounded system of political philosophy. The chief value of the book lies in the fact that it conveniently brings together material which is inaccessible to all but a few who have the use of extensive libraries.

LANE W. LANCASTER

Wesleyan University

FLÜGEL, FELIX, and FAULKNER, HAROLD U. *Readings in the Economic and Social History of the United States*. Pp. ix, 978. New York: Harper and Brothers, 1929. \$3.75.

The general organization of this large volume is a bit stereotyped, but the selections are made with insight and are given continuity by introductory passages. The

book's distinctive contribution in its field is its emphasis on contemporary economy. The automobile, for example, although not indexed, is discussed at length. One of the best sections is the final chapter of forty-two pages on economic imperialism.

WITT BOWDEN

University of Pennsylvania

### BOOKS RECEIVED

- Age Limitations in Industry: Statements of Fact and Opinion.* Compiled by the Industrial Relations Section, Princeton University. Pp. v, 34. Ann Arbor: Lithoprinted by Edwards Brothers, 1929.
- BENNS, F. LEE. *Europe Since 1914.* Pp. xii, 671. New York: F. S. Crofts and Company, 1930. \$5.00.
- BIANCHI, LEONARDO. *Foundations of Mental Hygiene.* Pp. xvi, 277. New York: D. Appleton and Company, 1930. \$2.50.
- BILLINGS, NEAL. *A Determination of Generalizations Basic to the Social Studies Curriculum.* Pp. xi, 289. Baltimore: Warwick and York, 1929. \$3.00.
- BIRD, FREDERICK L., and RYAN, FRANCES M. *Public Ownership on Trial: A Study of Municipal Light and Power in California.* Pp. xviii, 186. New York: New Republic, Inc., 1930. 75 cents.
- BIRD, FREDERICK L., and RYAN, FRANCES M. *The Recall of Public Officers: A Study of the Operation of the Recall in California.* Pp. viii, 403. New York: The Macmillan Company, 1930. \$4.00.
- BLAIR, WALTER A. *A Raft Pilot's Log: A History of the Great Rafting Industry on the Upper Mississippi, 1840-1915.* Pp. 328. Cleveland: The Arthur H. Clark Company, 1930. \$6.00.
- BRISSENDEN, PAUL F. *Earnings of Factory Workers, 1899 to 1927* (Census Monograph, X). Pp. xxi, 424. Washington: Government Printing Office, 1929. \$1.50.
- Bundesamt für Statistik. *Statistisches Handbuch für die Republik Österreich.* X Jahrgang. Pp. x, 210. Vienna: Verlag des Bundesamtes für Statistik, 1929.
- BUNNELL, S. H. *Industrials: Their Securities and Organization.* Pp. vii, 334. Chicago: A. W. Shaw Company, 1929. \$5.00.
- CADY, JOHN F. *Foreign Intervention in the Rio de La Plata, 1838-1850.* Pp. xiv, 296. Philadelphia: University of Pennsylvania Press, 1929. \$4.00.
- CHASE, STUART. *Prosperity: Fact or Myth.* Pp. 188. New York: Charles Boni, 1929.
- CHILDS, HARWOOD L. *Labor and Capital in National Politics.* Pp. xiii, 286. Columbus: Ohio State University Press, 1930. \$3.00.
- Classification (The) of Property for Taxation* (University of North Carolina Extension Bulletin, vol. 9, no. 4). Pp. 93. Chapel Hill: University of North Carolina Press, 1929. 50 cents.
- COSENTINI, FRANCESCO. *Codigo Civil Pan-Americano.* Pp. viii, 184. Havana: Vox Populorum. \$3.00.
- CULBERT, JANE F. *The Visiting Teacher at Work.* Pp. xv, 235. New York: The Commonwealth Fund, Division of Publications, 1929. \$1.50.
- DAVIS, JOHN W. *Party Government in the United States.* Pp. 68. Princeton: Princeton University Press, 1929. \$1.25.
- DAVIS, JOSEPH S. *The Farm Export Debenture Plan* (Food Research Institute, Miscellaneous Publications, no. 5). Pp. x, 274. Stanford University: Food Research Institute, 1929. \$3.00.
- DAVIS, W. JEFFERSON. *Radio Law.* Pp. 364, 40. Los Angeles: Parker, Stone and Baird Company, 1929.
- DAWSON, ROBERT M. *The Civil Service of Canada.* Pp. 266. New York: Oxford University Press, American Branch, 1929. \$6.00.
- DUFFUS, R. L. *Mastering a Metropolis: Planning the Future of the New York Region.* Pp. xiii, 302. New York: Harper and Brothers, 1930. \$3.00.
- EPSTEIN, RALPH C. *Supplementary Readings in Economics.* Pp. xi, 455. New York: Charles Scribner's Sons, 1929. \$2.75.
- FOVEL, N. MASSIMO. *Economia e Corporativismo.* Pp. 85. Ferrara: S. A. T. E., 1929. 10 lire.
- FRANKFURTER, FELIX, and GREENE, NATHAN. *The Labor Injunction.* Pp. 343. New York: The Macmillan Company, 1930. \$5.00.
- Handbook of Labor Statistics, 1929 Edition* (United States Bureau of Labor Statistics, Bulletin no. 491). Pp. xiv, 914. Wash-

- ington: Government Printing Office, 1929. \$1.00.
- HAYES, CARLTON J. H. *France: A Nation of Patriots*. Pp. x, 487. New York: Columbia University Press, 1930. \$4.50.
- HEDDEN, W. P. *How Great Cities Are Fed*. Pp. xvi, 302. New York: D. C. Heath and Company, 1929.
- HILL, JOSEPH A. *Women in Gainful Occupations, 1870 to 1920* (Census Monograph, IX). Pp. xvi, 416. Washington: Government Printing Office, 1929. \$1.50.
- HULL, WILLIAM I. *India's Political Crisis* (Johns Hopkins University Studies in Historical and Political Science, New Series, no. 7). Pp. xvii, 190. Baltimore: The Johns Hopkins Press, 1930. \$2.00.
- JOHNSON, ALBERT A. *The Soviet Union at Work: Past, Present, Future*. Pp. 65. Springfield, Mass.: A. A. Johnson and Associates, 1929. \$15.00.
- JONES, CHESTER L., NORTON, HENRY K., and MOON, PARKER T. *The United States and the Caribbean: American Policies Abroad*. Pp. xi, 230. Chicago: University of Chicago Press, 1929. \$1.50.
- KETELBEY, D. M. *A History of Modern Times from 1789 to the Present Day*. Pp. 623. New York: Thomas Y. Crowell Company, 1929. \$3.75.
- KNIGHT, BRUCE W., and SMITH, NELSON L. *Economics*. 2 volumes. New York: The Ronald Press Company, 1929-1930. \$4.00 each.
- Labour Legislation in Canada as Existing December 31, 1928*. (Published by the Department of Labour). Pp. iv, 733. Ottawa: F. A. Acland, 1929. \$1.00.
- LATORRE U., LUIS F. *Concepto Sobre Legislación de Hidrocarburos*. Pp. 74. Bogota, Colombia: Imprenta Nacional, 1929.
- . *Crédito Hipotecario*. Pp. 245. Bogota, Colombia: Aguila Negra Editorial, 1928.
- . *Jurisprudencia razonada del Tribunal Superior de Bogotá (1917-1923)*. Pp. viii, 310. 2nd edition. Bogota, Colombia: Librería Americana.
- LEE, PORTER R., and KENWORTHY, MARION E. *Mental Hygiene and Social Work*. Pp. xi, 309. New York: The Commonwealth Fund, Division of Publications, 1929. \$1.50.
- LELAND, SIMEON E. *The Tazation of Intangibles in Kentucky* (Bulletin of the Bureau of Business Research, College of Commerce, vol. 1, no. 1). Pp. 50. Lexington: University of Kentucky, 1929. 50 cents.
- LINDSAY, A. D. *The Essentials of Democracy*. Pp. 82. Philadelphia: University of Pennsylvania Press, 1929. \$1.00.
- LOTZ, WALTHER. *Finanzwissenschaft*. Vol. I, pp. 161-320. 2nd revised edition. Tübingen: J. C. B. Mohr (Paul Siebeck), 1929.
- LOUCKS, WILLIAM N. *The Philadelphia Plan of Home Financing: A Study of the Second Mortgage Lending of Philadelphia Building and Loan Associations* (Studies in Land Economics, Research Monograph, no. 2). Pp. 67. Chicago: The Institute for Research in Land Economics and Public Utilities, 1929.
- MACDONALD, AUSTIN F. *American City Government and Administration*. Pp. xv, 762. New York: Thomas Y. Crowell Company, 1929. \$3.75.
- MARTINOLI, SILVIO. *Die Autokasko-Ver-sicherung in Theorie und Praxis* (Volkswirtschaftstheoretische Abhandlungen, Heft 10). Pp. 258. Weinfelden: A.-G. Neuenschwander'sche Verlagsbuchhandlung, 1930. 14 francs.
- MAUTNER, BERTRAM H., ABBOTT, W. LEWIS, et al. *Child Labor in Agriculture and Farm Life in the Arkansas Valley of Colorado*. Pp. 158. New York: National Child Labor Committee, 1929.
- NYSTROM, PAUL H. *Economics of Retailing*. 2 volumes. New York: The Ronald Press Company, 1930. \$10.00.
- PAGNI, CARLO. *A Proposito di un Tentativo di Teoria Pura del Corporativismo*. Pp. 15. Turin: Arti Grafiche—Ditta Fratelli Pozzo, 1929.
- Picture (A) of World Economic Conditions in the Summer of 1929*. Pp. xii, 309. New York: National Industrial Conference Board, Inc., 1929. \$2.50.
- Public Schools and the Worker in New York: A Survey of Public Educational Opportunities for Industrial Workers in New York State*. Pp. xi, 80. New York:



- National Industrial Conference Board, Inc., 1929. \$1.50.
- RAPPARD, WILLIAM E. *Uniting Europe: The Trend of International Coöperation Since the War* (Institute of Politics Publications, Williams College, Williamstown, Mass.). Pp. xvii, 309. New Haven: Yale University Press, 1930. \$3.00.
- REITER, GEORGE. *A Tax Without a Burden; or, The Individual Capital Augmentation Tax System*. Pp. 137. Boston: The Christopher Publishing House, 1929. \$1.50.
- ROTH, WALTER E. *Additional Studies of the Arts, Crafts, and Customs of the Guiana Indians* (Bureau of American Ethnology, Bulletin no. 91). Pp. xvii, 110. Washington: Government Printing Office, 1929. \$1.00.
- SALISBURY, WILLIAM. *The Squareheads: The Story of a Socialized State*. Pp. 168. New Rochelle: Independent Publishing Company, 1929. \$1.00.
- SANDERS, THOMAS H. *Industrial Accounting: Control of Industry Through Costs*. Pp. xiv, 371. New York: McGraw-Hill Book Company, 1929. \$4.00.
- SELIGMAN, EDWIN R. A., and JOHNSON, ALVIN (Eds.). *Encyclopaedia of the Social Sciences* (vol. 1, Aar-Al). Pp. xxvii, 646. New York: The Macmillan Company, 1930. \$7.50.
- SEYMOUR, FLORA W. *The Story of the Red Man*. Pp. xi, 421. New York: Longmans, Green and Company, 1929. \$5.00.
- SIEGFRIED, ANDRÉ. *France: A Study in Nationality* (Institute of Politics Publications, Williams College, Williamstown, Mass.). Pp. vi, 122. New Haven: Yale University Press, 1930. \$2.00.
- SMITH, J. ALLEN. *The Growth and Decadence of Constitutional Government*. Pp. xvii, 300. New York: Henry Holt and Company, 1930. \$3.00.
- SMITH, T. V., and WHITE, LEONARD D. (Eds.). *Chicago: An Experiment in Social Science Research*. Pp. xi, 283. Chicago: University of Chicago Press, 1929. \$3.00.
- STAMP, L. DUDLEY. *Asia: An Economic and Regional Geography*. Pp. xx, 616. New York: E. P. Dutton and Company, 1930. \$8.00.
- State Law Index: An Index and Digest to the Legislation of the States of the United States Enacted During the Biennium 1925-1926* (no. 1). Pp. vii, 583. Washington: Government Printing Office, 1929. \$1.50.
- STERN, S. *Fourteen Years of European Investments, 1914-1928*. Pp. xiv, 279. New York: The Bankers Publishing Company, 1929.
- SWIFT, FLETCHER H., and ZIMMERMAN, BRUCE L. *State School Taxes and School Funds and Their Apportionment: A Report on the Practices of Forty-eight Commonwealths Constituting the United States of America* (Bureau of Education Bulletin, 1928). Pp. viii, 431. Washington: Government Printing Office, 1929. 50 cents.
- TOWNSEND, MARY E. *The Rise and Fall of Germany's Colonial Empire, 1884-1918*. Pp. xviii, 424. New York: The Macmillan Company, 1930. \$5.00.
- VORLÄNDER, KARL. *Karl Marx, Sein Leben und Sein Werk*. Pp. viii, 332. Leipzig: Felix Meiner Verlag, 1929. M.12.
- Wages and Hours of Labour in Canada, 1920-1929* (Department of Labour, Report no. 13). Pp. 103. Ottawa: F. A. Acland, 1930.
- WATKINS, GORDON S. *Labor Problems*. Pp. xvi, 726. Revised edition. New York: Thomas Y. Crowell Company, 1929. \$3.50.
- WHITAKER, JOHN R. *The Organization of Chain-Grocery Companies in Relation to Scientific Merchandising*. Pp. 134. Philadelphia: University of Pennsylvania Press, 1929.
- WHITING, EDWARD E. *Changing New England*. Pp. x, 275. New York: The Century Company, 1929. \$2.50.
- WIENEFELD, ROBERT H. *Franco-German Relations, 1878-1885* (Johns Hopkins University Studies in Historical and Political Science, Series XLVII, no. 4). Pp. vi, 200, xii. Baltimore: The Johns Hopkins Press, 1929. \$1.50.
- WILSON, M. C., and BROKAW, W. H. *What Local Leaders Do: A Study of the Activities of 155 Local Extension Leaders in Two Nebraska Counties* (Extension Service Circular 115). Pp. 17. Wash-



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Publishing

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ington: Department of Agriculture, 1929.  
WINKLER, MAX. *Investments of United  
States Capital in Latin America*. Pp.  
297. Boston: World Peace Foundation,  
1929. \$2.00.

WOLFE, F. E. *Principles of Property  
Insurance*. Pp. xii, 393. New York:

Thomas Y. Crowell Company, 1930.  
\$3.00.

ZAPOLEON, L. B. *Inedible Animal Fats in  
the United States* (Fats and Oils Studies  
of the Food Research Institute, no. 3).  
Pp. xv, 353. Stanford University: Food  
Research Institute, 1929.

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# COLORADO RIVER DEVELOPMENT AND RELATED PROBLEMS

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ENGLAND: P. S. King & Son, Ltd., 2 Great Smith Street, Westminster, London, S. W.

FRANCE: L. Larose, rue Soufflot, 22, Paris.

GERMANY: Mayer & Müller, 2 Prinz Louis Ferdinandstrasse, Berlin, N. W.

ITALY: Giornale degli Economisti, Milano, Via Canova, 27.

SPAIN: E. Dossat, 9 Plaza de Santa Ana, Madrid.

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## FOREWORD

IN January, 1928, *The Annals* published a number of articles dealing with certain phases of Colorado River development. Since that time the Swing-Johnson Bill, analyzed in that issue, has become a law and many interesting developments in connection with the building of a dam near Boulder Canyon have appeared. The papers presented in this supplement were read, in part, at the annual sessions of the Academy Center at Los Angeles last May. They have been revised somewhat and brought down to date, so that those who have been interested in this great national development may continue their study of the Colorado begun in January, 1928.

To many who do not know intimately the water and flood problems of the great Southwest, the Colorado River legislation appears a successful attempt to get from the Federal Government a large appropriation for local development, i.e., something in the nature of "pork." To those who live on the Pacific Coast this view is abhorrent and most unfair.

Californians, for instance, see in this Colorado development a tremendous excursion into the realm of regional planning. Such planning requires a coöperative enterprise on the part of the National Government, seven states, and a goodly number of cities in one of these states. In its lowest terms, the *problem* may be stated thus: "Can a great river, now a menace and threatening periodical disaster in times of high water, be harnessed for all time and become the most potent instrument of human welfare in all the great Southwest?" These same people believe they are asking nothing from the Federal Government except the per-

mission to go ahead and the temporary loan of our national credit. It is assumed by everyone in the Southwest that the people of the region themselves will pay all the costs of the Colorado development. Thus, they feel that not only are they not asking for subsidy, but rather for the mere opportunity to help themselves.

The problems that lie in the field of this great river development are many and profound. All would be relatively simple if these were merely engineering and construction tasks such as are found in ordinary dam building. But a tremendous silt problem intrudes itself upon the engineers; an equating of the flow of a great river not only for flood control and irrigation purposes, but for power and domestic water development as well; political and sectional difficulties in seven sovereign (?) states; and, in addition, legal questions which go to the marrow of our federal system of national and state relations. Besides all these, the controversial subject of governmental development and operation of hydro-electric power likens this problem to the perhaps better known Muscle Shoals controversy. Thus, private corporations and local governmental units have been brought face to face at Washington and the pros and cons of public ownership and operation have been read into the record.

Besides problems of engineering importance, this Colorado River question has raised many problems of law; of national and interstate relations; of local, regional, economic, and social needs; and of ad hoc authorities to prosecute improvements extending beyond municipal borders. State pride and State rights have necessitated innumerable conferences among rep-

representatives of seven states on the subjects of both water and power allocations. The final stages in these conferences have been proceeding in Washington, with the Secretary of the Interior as the general and final arbiter in the struggle between the states themselves and between governmental agencies and private power corporations.

Once the decisions of the Secretary are made, it is assumed that the Federal Government will proceed to erect a dam at, or near, Boulder Canyon in accordance with the provisions of the Swing-Johnson Act. There remains the possibility that Arizona will resort

to the courts to test the constitutionality of that legislation. When this matter is disposed of with the retirement of Arizona from its position as objector, the construction of an aqueduct from the Los Angeles area to some point on the Colorado will also proceed in dead earnest and a part of the Colorado will be brought to Pacific Coast cities, pumped by power generated at Boulder Dam hundreds of miles distant. This project challenges the imagination and inspires the hopes of millions in the great Southwest. It assumes national importance because of the issues involved over such a wide area.

C. A. DYKSTRA.

# Community Development in the Southwest as Influenced by the Boulder Canyon Project

By E. F. SCATTERGOOD

Chief Electrical Engineer and General Manager, Bureau of Power and Light, Department of Water and Power, Los Angeles, California

THE semi-arid Southwest, with its constantly changing atmospheric colorings and its rugged topography, its mesa slopes, beautiful valleys, and coastal plains, and its deep-cut canyons exposing the rocks of all ages, is quite as distinctive as any section of the earth, not excluding Spain and Italy; and, it seems, is destined to become a center of culture and of economic activity. Little wonder that the Indian of this section was notably a silent man, eloquent, and true to the Great Spirit that controlled his emotions.

During the period of occupancy of this territory by the aborigines, followed by the Spanish rule with its missions and romance, and later by the more hardy pioneers from the north under the rule of our own country, the more populous communities were to be found, until recently, in the valleys along the natural water courses. Their wants were quite fully supplied by the uses made of the water and other natural resources found within close range of their settlements.

Until the city of Los Angeles reached a population of one hundred and sixty thousand, its water supply was readily and amply provided from the Los Angeles River watershed. Then it became evident to men of vision that an additional and much larger water supply must be brought in from some distant source, as otherwise the city's growth would be limited to a population of possibly five hundred thousand people.

## IMPORTANCE OF ELECTRIC POWER

It is true of the whole Southwest, as well as of Los Angeles, that the measure of opportunity for human habitation is the extent to which additional supplies of both water and electric power of a permanent and reliable sort may be made available at reasonably low costs. That this condition prevails with respect to water is generally understood, but that it is equally true with respect to electric power is not so thoroughly appreciated. That industrial activity and expansion in the Southwest is dependent on electric power is a fact so clearly apparent as to necessitate no detailed explanation. Possibly, however, it is not so generally recognized that even the water supplies for both domestic and irrigation uses are, in a great measure, dependent upon the availability of electric power.

There are some sections in the Southwest in which the water required for agriculture, in excess of the natural rainfall, and that required for domestic use, may be secured through gravity systems, and hence without the use of electric power for pumping; but, generally speaking, the water supply of the Southwest for all purposes is dependent in considerable part on electric power for pumping under normal weather conditions. During periods of low rainfall and low stream flow these water supplies are dependent to an even greater extent upon the use of electricity. As the development of the

Southwest proceeds and the available water sources are more completely utilized, the extent and reliability of water supplies for irrigation and domestic uses will become more and more dependent upon electric power.

The assurance for the future of abundant supplies of water and electric power are matters of community interest; and the acquisition and conveyance of these over long distances—for example two hundred and fifty miles in the case of the present supply of the city of Los Angeles—sometimes requires both community action in the establishment of the projects and community credit for financing them. This is particularly true of a water supply because essential economies require such aqueducts to be built of the ultimate proposed capacity, resulting in heavy carrying charges for a period of years during the development of the community up to the point of using a substantial part of the aqueduct's capacity. The unit cost of water delivered through aqueducts of such length and of small capacity would be prohibitive.

How small, of all that human hearts endure,  
That part which laws or kings can cause or cure!

Still to ourselves in every place consign'd,  
Our own felicity we make or find.

These lines of Oliver Goldsmith, with their characteristic human touch, are expressive of a great and lasting truth; but the poet did not conceive of great communities being supplied their necessities through water and electric power brought from distances as great as from Land's End to Scotland or from London to his city of Dublin.

Great water projects like these are generally accompanied by opportunities for the development of electric power, and become economically fea-

ible for community action because of this dual character. Communities are justified in financing such projects because of the added wealth in taxable property resulting concurrently with the establishment of the project and the realization of the corresponding increases in industrial and commercial activities.

Such justification has been clearly demonstrated by the development following the construction by the city of Los Angeles of its Owens River Aqueduct, a joint water and power project. Furthermore, it is clear that private capital is not justified in such undertakings as numerous other communities in California, most of them at the time supplied by privately owned companies, have found it necessary to provide for their future in like manner. Notable examples are the city of San Francisco, the East Bay cities (located east of the San Francisco Bay), acting jointly because no one city's requirements were of sufficient magnitude economically to justify an aqueduct, and many cities of southern California acting jointly through the Metropolitan Water District of that section.

#### ADVANTAGES OF THE PROJECT

The Boulder Canyon Storage project, located on the lower Colorado River, proposed to be constructed by the Federal Government, will result in protecting from possible destruction by floods the great Imperial Valley and other districts along the river below. It will also result in the conservation of the flood waters for additional irrigation and domestic use and in the development of a large block of hydroelectric power, probably equaling 600,000 firm horsepower or 1,000,000 peak horsepower at sixty per cent load factor.

The Boulder Canyon Project Act provides that the Secretary of the

Interior shall enter into reliable contracts for power and for water sufficient to guarantee to the Federal Government the return of its total investment, with interest, before any expenditures for construction can be undertaken. The fact that it is a joint water and power project makes this entirely feasible; hence, there will be provided flood protection without cost to the taxpayers. This is a project involving diversified interests of two nations, and many states and communities. Of such projects, Owen D. Young has said:

Where vast rivers either on international boundaries or within the United States require development for several purposes such as navigation, irrigation, and flood control, as well as for power, there arises a new kind of question which is wholly unrelated to the old controversy of Government versus private ownership.

Justification for the establishment of a great water and power project like the proposed Boulder Canyon project is dependent on two principal factors: (a) the engineering feasibility and the reasonableness of cost of the project itself in proportion to the amount of resources made available; and (b) the sufficiency and permanency of the demand for such resources.

#### THE LOS ANGELES SURVEY

It was evidently essential, therefore, that reliable information, respecting the extent to which the project would influence development in the Southwest and the extent of the resulting market for the water and power, should be available for the information of the Southwest and as a basis of proof to Congress that the project would be financially sound and self-supporting. Accordingly, in 1925 the Power and Light Division of the Department of Water and Power of Los Angeles made a comprehensive survey, followed by more recent checks, covering the terri-

tory that may be described as immediately adjacent to the Boulder Canyon project, including southern California, southern Nevada, and Arizona.

First, there was determined for a period of years past the value of property throughout the whole area and its several parts; the annual gross production of industry through agriculture, mining, and manufacturing; the amount of electric power and water in use; and the extent of commercial activity. Then the research was carried on through the use of trend curves, with many checks, for the determination of the probable normal future development in each of these several activities for the various natural subdivisions of the whole area studied. These quantitative results were then adjusted upward to correspond to the influence resulting from the utilization of the Boulder Canyon water and power. This particular line of research determined not only the probable increase in industrial activity as a whole, but also the relation that would maintain between the several lines of industry, between industry and commerce, and their combined relationship with respect to the amount of electric power and water used. The trend indicated a satisfactory balance between all of these for the future.

In order that there may be assurance of permanency in the activities of a community, as well as immediate success and prosperity, there must be a reasonable balance between commerce, manufacturing, and agriculture. It is often said that a seaport must have a back country. It is equally true that certain allied manufacturing industries, large and small, are quite essential to one another if competition is to be met; and that manufacturing as a whole is dependent on nearby agriculture, as most of the required foodstuffs cannot be hauled long distances, nor subjected



to numerous commissions, if competition is to be met in our national and world markets.

The city of Los Angeles launched its present Owens River Aqueduct as a joint water and power project when its population was but 160,000. Now its population is approximately 1,400,000 and its water supply sufficient for two million people for domestic purposes.

Instead of following the more usual course of trying to make a profit out of its power opportunities and allowing its surplus water to remain unused, the city of Los Angeles has provided for the use of its surplus water for intensified farming within its limits, pending the occupancy of such areas for city purposes, and has distributed the hydro-electric power from along its aqueduct at low rates for the encouragement of industry and to make electricity a servant instead of a luxury in its domestic and commercial life. The result has been a tremendous increment in the total wealth and in the industrial activities of the whole Los Angeles metropolitan area.

The first blocks of hydro-electric power from the city's aqueduct plants became available twelve years ago. During these twelve years the total property values in this section have increased to more than three times their value in 1917. Furthermore, industrial and commercial activities have increased in even greater proportion than the property values in the whole district. It should be noted, also, that the business of the privately owned electric utilities, as well, has increased in greater proportion than the wealth of the communities as a whole, and with this increase in utility business has come a marked increase in the value of private utility securities of the section.

The history of the Owens River project of Los Angeles has proved a valuable guide in forecasting develop-

ment in the Southwest resulting from the Boulder Canyon project. The underlying data and conclusions made available by the general survey have served as a basis of testimony before the House and Senate Committees of Congress and of a report submitted to the Colorado River Board, of which General William L. Sibert is chairman. They have convincingly shown that the project is financially sound because of an adequate and permanent market for water and power at prices sufficient to repay the Federal Government its investment, with interest.

The study further shows that the total wealth, based on one hundred per cent assessed property values, of the territory adjacent to the Boulder Canyon project approximated eleven billion dollars in 1924; and that the increase in wealth corresponding to putting to use the power from Boulder Canyon project, and a corresponding portion of the conserved water for agricultural and domestic uses, should equal twelve billion dollars. The increase in gross annual output of all classes of industry, large and small, corresponding to such an increase in property values and use of power would be four billion dollars; assuming an average net earning of ten per cent of the gross, this would mean an increase in annual net revenues of four hundred million dollars. Such economic values are little realized generally. By comparison, how small is the estimated cost of the proposed Boulder Canyon development, as a whole, and how comparatively insignificant are the possible direct revenues that may or may not be secured through taxation of such a development.

#### EFFECT ON THE COMMUNITY

The assurance that such a project will be constructed has an immediate effect on the wealth of the community,

primarily through stimulating the establishment of new industries in anticipation of the completed project, and, secondarily, because of the immense sums of money spent for labor and material during the construction period. The cost of the main projects in connection with the proposed Boulder Canyon development, including reservoir, power plant, electric transmission, aqueduct for domestic water, and all-American canal, will equal approximately three hundred million dollars. The cost for local distributing systems and other facilities for the utilization of the water and power is roughly estimated at two hundred and twenty-five million dollars; and the expenditures will justify a considerable increase in population and in industrial development preparatory to the more permanent conditions resulting from the completed project itself.

Furthermore, the general survey described shows conclusively, from experience, that great projects affecting large areas result in a proportionally greater degree of progressive development in the territory that is least developed than elsewhere; and this, in turn, brings economic benefits and conveniences to the farmer and tends toward the establishment of appropriate industries in the rural sections.

The strength of a nation rests largely on the efficiency and thrift of the farmer and the mechanic, and one of our greatest national problems is to bring these closer together economically. This can be done most effectively, if not solely, through the general distribution of electric power at low

costs in rural sections, and such a tendency should result in increased degree from the Boulder Canyon project.

During the year 1900, while head of the Department of Electrical Engineering at the Georgia School of Technology, the writer urged on the people of Georgia that they were depleting their soil and making a mere living for want of the economic advantage of appropriate local factories. Later, while Secretary of the Interior, Franklin K. Lane, who thought much of the public interest, pointed out that the two great opportunities for development of national importance were in the South and the Southwest: the South, through drainage, improved farming methods, and the establishing of factories for the utilization of its raw materials; and the Southwest, through the development of projects on the Colorado River. Both of these great undertakings which he so clearly visualized are now being realized.

The influence of the Boulder Canyon project on community development in the Southwest, as here presented, is based on a study in economics; but, after all, the great purpose that has prompted Congress and the people now living in the Southwest is not the creation of wealth as such, but the establishment of conditions which will afford opportunity for the existence, in a prosperous and happy state, of additional multitudes of people in that section. The real purpose is opportunity for human existence and human welfare. The Boulder Canyon project is sound and will provide such opportunity.

# Metropolitan Water Distribution in the Los Angeles Area

By FRANKLIN THOMAS

Vice-Chairman, Metropolitan Water District of Southern California, Pasadena, California

**T**HE importance of, and necessity for, coöperative development of available water supplies by communities of southern California is strikingly accentuated by the following fact, as expressed by former State Engineer Paul Bailey in Bulletin 12 of the Department of Public Works:

California, southerly from Tehachapi Pass, embraces twenty per cent of the area of the state that is favorable for human habitation, while but little over one per cent of the state's waters, exclusive of the Colorado River, are tributary thereto.

This insignificant fraction of the waters of the state is at the present time supporting a population of 3,100,000 people, not including Imperial County, representing fifty-seven per cent of the population of California. That such a meager resource could have been developed so proficiently and with such frugality as to maintain so large a concentration of people is evidence of the skill and resourcefulness possessed by those engineers and officials who have furnished this rapidly increasing population with water.

The development which has been possible to this time could not have occurred without the fortunate existence of enormous underground reservoirs from which accumulations of water throughout ages in the voids of underlying gravel beds are being drawn upon to supply the needs of the present generation. These priceless reservoirs lie beneath the San Fernando, San Gabriel, Pomona, and Santa Ana River valleys, and also in lesser magnitude under the western and southern coastal plains of Los Angeles county.

Cyclic variation in the rainfall of this region occurs in alternate above and below average periods of eleven or twelve years' duration each. During the years of above normal precipitation, replenishment of ground waters takes place to a certain extent, but present-day extractions are in excess of the safe average yield and the surplus is being depleted. In recent years this replenishment has been augmented by spreading flood flows at the mouths of canyons upon debris cones, thus making larger areas available for percolation. It is found that from three to four cubic feet per second of water per acre can be put underground by directing the flow into closely made furrows.

The limitations of supply from local sources have been foreseen during a number of years and the necessity of reaching out to distant sources has appeared to be unavoidable. The only large unutilized source of water supply available to southern California is the Colorado River. In contemplation of water diversion from that river to this region, some of the farsighted officials of Los Angeles and the adjacent cities recognized that a new basis of procedure would be necessary to accomplish a project of such magnitude and formed the Colorado Aqueduct Association. Furthermore, while the developments of local sources had been characterized by competitive rivalry, frequently involving costly but often fruitless litigation, it was deemed highly important that in bringing a new supply of water to the Los Angeles metropolitan area the greatest eco-

nomic advantage would result from having the whole area participate in both the costs and the benefits.

#### METROPOLITAN WATER DISTRICT ACT

Prior to 1927, there did not exist a workable statutory basis for coöperation between cities on such projects. The state legislature in 1927 adopted an enabling act drafted by W. B. Mathews, of Los Angeles, and James H. Howard, of Pasadena, and sponsored by the Colorado Aqueduct Association, outlining the procedure for the organization of a Metropolitan Water District and prescribing the scope and manner of accomplishing its operations, as well as the powers and duties of its governing body.

The act provides for the inclusion of incorporated municipalities and also territory incorporated only as a water district for the purpose of developing, storing, and distributing domestic water. All powers, privileges, and duties vested in, or imposed upon, any district formed under this act shall be exercised and performed by a board of directors. The board of directors shall consist of one representative from each municipality comprising the district, appointed by the executive officers of the respective municipalities, and each representative is entitled to cast one vote for each ten million dollars, or major fractional part thereof, of assessed valuation in his city according to the county records, with at least one vote. The act also provides that no city shall have votes exceeding fifty per cent of the total of all members. Any city having an assessed valuation of two hundred million dollars or more, at its option, may appoint one additional representative for each two hundred million dollars of such valuation, but the vote of any city shall be cast as a unit.

The district, among its powers, shall

be authorized to acquire, hold, and sell property of any kind; also to acquire, construct, and operate any works necessary or convenient to the exercise of its powers in any location. It shall have power of eminent domain for the condemnation of private property except water stored behind any flood control dam, water, and water rights already in beneficial use, and power plants devoted to public use. The district may levy taxes with the provision that aside from a tax levied to meet bonded debt and interest thereon the amount shall not exceed five cents on one hundred dollars assessed valuation. The district is empowered to issue bonds following authorization by a majority vote of the electors voting upon the proposition. The district may join with other public corporations for carrying out any of its powers and may contract with such public corporations for financing projects.

Each city within the district shall have a preferential right to purchase from the district for domestic use a portion of water from the district in the ratio of its assessed valuation to that of the whole district.

Annexation of new territory to the district is by a vote of such territory and at the discretion of the board of directors of the district. The board may fix the terms and conditions of annexation to the end that burdens including bonded debt shall be equitably distributed, having due regard to benefits. The act also provides a procedure for the withdrawal from the district of any city which may have become a part of it.

#### METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

In the late summer of 1928, the organization procedure was undertaken and the proposition of joining the district was submitted to the voters in a

number of cities at the presidential election in November. The vote was overwhelmingly favorable in Los Angeles, Pasadena, Glendale, Burbank, Beverly Hills, Santa Monica, San Marino, San Bernardino, Colton, Anaheim, and Santa Ana, eleven cities in all. The proposition was submitted, but not approved, in Glendora and Orange.

The present composition and proportionate representation of the district is shown in the following table:

Sierra Madre Mountains, enumerated the following quantities: Los Angeles River Basin—139 second feet; Owens River Aqueduct—400 second feet; or about 540 second feet, which was estimated by them to be adequate for the city of Los Angeles of present boundaries until 1940. The foregoing, supplemented by the definitely limited available water of the rest of the county estimated at 400 second feet, brought the total to 940 second feet continuous flow, whereas it was stated that to

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

January 1, 1929

City	Assessed Valuation	Percentage of District	Allowable Number of Directors	Votes on the Board
Burbank . . . . .	\$23,393,795	1.03	1	2
Beverly Hills . . . . .	59,412,840	2.61	1	6
Glendale . . . . .	74,424,860	3.28	1	7
Los Angeles . . . . .	1,863,559,210	82.02	10	40
Pasadena . . . . .	124,126,620	5.46	1	12
Santa Monica . . . . .	63,923,940	2.81	1	6
San Marino . . . . .	14,007,065	.643	1	1
San Bernardino . . . . .	18,239,928	.803	1	2
Colton . . . . .	2,168,099	.106	1	1
Anaheim . . . . .	7,878,185	.346	1	1
Santa Ana . . . . .	20,336,065	.892	1	2
Total . . . . .	\$2,272,070,607	100.00	20	80

The cities comprising the district at present have an aggregate population estimated at 1,850,000. The whole of Los Angeles and of Orange counties, together with the cities of San Bernardino and Riverside counties, situated this side of the Beaumont divide, and which may be regarded as prospectively part of the ultimate Metropolitan Water District, have a present population of 2,640,000.

The report of Messrs. Hill, Lippincott, and Sonderegger in 1924, on the available and potential supplies of water for Los Angeles county south of the

serve the metropolitan portion of the county adequately until 1933 without overdraft would require 1,315 second feet. This metropolitan area by 1950 would require 1,870 second feet, or about twice the amount which is now provided. One second foot flowing continuously represents approximately 730 acre feet per annum. The 940 second feet continuous flow represents 685,000 acre feet per annum, in comparison with 1,359,000 acre feet estimated annual water requirement in 1950 for the metropolitan area of Los Angeles County.



A quantity of 1,359,000 acre feet per annum requires a continuous flow of 1,870 second feet, in comparison with present available supply of 940 second feet. The deficiency amounts to a flow of 930 second feet, or 674,000 acre feet per annum.

The aggregate deficiencies in water of the present supplies of this comprehensive metropolitan area of Los Angeles and vicinity,<sup>1</sup> compared with the amount necessary for unrestricted development by 1950 as shown in the table on p. 8, are almost exactly equal to the 1,500 second feet, or 1,090,000 acre feet per annum, of Colorado River water which the Metropolitan Water District of southern California has filed upon for diversion to the coastal plain.

The application for diversion is made for domestic water, which does not involve service exclusively within municipal boundaries. Domestic water may be defined as water used within urban developments and upon suburban areas not over one acre in extent, or where the cultivation is not on a commercial basis. The rapid conversion of former agricultural lands into urban and suburban properties makes difficult a distinction between irrigation and domestic water uses.

The compilation just made indicates that if the proposed diversion from the Colorado River were all used for sharply drawn domestic classifications it would all be needed within two decades from the present time, if local supplies were released to permit full development of adjacent agricultural lands.

#### DISTRIBUTION

The foothill region from Redlands and San Bernardino to Santa Monica is relatively free from obstructions and barriers. The almost unbroken con-

tinuity of the coastal plain from Santa Monica to the plain of the Santa Ana River, with numerous passes from the foothill valleys, affords topographical conditions which are very favorable for water distribution on a large scale. The range of altitude covers from fifteen hundred feet above sea level, which would include practically all of Redlands, to sea level. The contour 1,000 is followed toward the south closely by the Gage Canal easterly from and above Riverside. Contour 1,000, if followed westward, leads from Colton through Ontario, San Dimas and along the base of the Sierra Madre Range above Glendora, Azusa, Monrovia, Sierra Madre, and in the general vicinity of Washington Street, Pasadena. The greater portion of Glendale lies below the 750 contour, and much of Hollywood and Beverly Hills below contour 500. The upper entrance to Santa Ana Canyon near Prado is approximately at elevation 450, and the pass at Whittier Narrows between the Montebello and Puente Hills is at elevation 200. Santa Ana, Fullerton, Santa Fé Springs, and Montebello lie below elevation 250, which passes near Ninth and Main Streets, Los Angeles.

Among the cities not now a part of the district, but giving consideration to possible annexation to it, is San Diego. This city, like most others in southern California, has experienced an increased use of water along with multiplying population, which has been met only by virtue of unusual persistence in conserving the runoff of a meagerly productive watershed. The comparative isolation of San Diego, in contrast to the generally compact relation of the metropolitan region near Los Angeles, introduces large, but not serious, construction problems and materially added cost for any water which may be diverted to it from the Colorado River Aqueduct.

<sup>1</sup>Including Orange, San Bernardino, and Riverside counties.

If the aqueduct should pass beneath the Beaumont Summit, a lateral conduit from the vicinity of Moreno at an elevation somewhat above elevation 1,500 leading to San Diego would be approximately one hundred miles in length and would feed the University Heights Reservoir at elevation 400. Such a line would lie to the east of Perris and Lake Elsinore, west of Escondido and Lake Hodges, but on a hydraulic grade nearly 400 feet above the latter reservoir.

#### TERMINAL RESERVOIR REQUIREMENTS

An aqueduct three hundred and fifty or more miles in length, as will be the Colorado River Aqueduct, should have regulating reservoirs at several intervals on its line, but particularly critical is the necessity for terminal storage to carry through periods of seasonal fluctuation or of interrupted flow. The minimum provision of storage desirable would be for three months' summer demand, which runs about one-third greater than the average for a year. The flow of 1,500 second feet amounts to nearly 1,100,000 acre feet per year. Three months' supply at one-third above the average would be 365,000 acre feet.

Reservoir sites of large capacity are very scarce in southern California, but the reservoir of the Los Angeles County Flood Control District in San Gabriel Canyon, with a spillway elevation of 1,767 and a capacity of 220,000 acre feet at that level, represents a possibility, if the aqueduct is located so as to bring water in at a sufficiently high elevation. The Pine Canyon Reservoir of the city of Pasadena, four miles above Azusa, will have a flood line at elevation 1,220, and provides 64,000 acre feet of storage. All locations of the aqueduct yet considered could use the Pine Canyon Reservoir. The Puddingstone Reservoir near San

Dimas offers possibilities for 20,000 acre feet, with a surface elevation of 975. Ultimate necessity may require the use of Lake Elsinore for storage purposes. Its present elevation of about 1,220 would enable it to serve a large area.

#### UNDERGROUND RESERVOIRS

Reference has previously been made to the existence of extensive underground storage capacity in the alluvial fills which underlie the valleys and plains between the mountains and the sea in the Los Angeles and adjacent areas. Due to the presence of underground barriers which form closed basins, the water levels form a succession of terraces with intervals of elevation as large as two hundred feet. When the water levels are high in these basins, leakage occurs at generally known gaps into the lower water terraces. A great saving of power results from pumping water supplies from a basin higher than the area to which service will be made. Replenishment of the upper ground reservoirs insures more complete utilization of available storage, as well as greater conservation due to the greater distance and consequent longer time before it can escape to the ocean, the movement of water underground being only a few feet a day.

The greatest economy in the use of water results from the application of the principle of reuse of return waters, with original application being made in so far as possible to the higher lying areas.

Any plan of distribution for the Metropolitan Water District should take advantage of these underground basins, not only for storage, but also to some extent as a means of natural transportation and delivery.

The underground reservoirs can only serve their full utility if their levels

are materially drawn down in periods of deficient water crop on local watersheds, thereby making opportunity for conservation of flood runoff when it comes in cyclic succession. Such lowering of water levels is inconvenient and causes increased cost of production at the time, but joint considerations of conservation and full use of water resources require it.

At the present time, the valleys and plains are getting practically full benefit of return waters, as the water is used and reused on successively lower levels. With the development of sewer systems, there is great danger, particularly to the upper valleys, of adopting what seems at times to be the easiest disposal, that of building a pipe to the ocean and robbing the closed basins of the return flow, amounting to over one-half of the water used. By substituting treatment plants for ocean outfall lines, and by spreading the sterilized effluent upon gravel washes, what in effect would represent a one hundred per cent increase in draft upon available water supplies can be averted.

#### ECONOMIC AND POLITICAL SIGNIFICANCE OF THE DISTRICT

It has long been recognized that application of the doctrine of riparian rights, which did not involve economic and beneficial use of water, was a great obstacle to full and efficient use of existing water resources. So long as water development is made by small units on a competitive basis, water conservation will not be accomplished when and where it will do the greatest good, nor will water production be done where greatest economy and use

will be achieved. If the population of an area situated so as to be dependent upon a common source of water can become organized into a comprehensive district having the objective of augmenting the water supply for the whole area, former rivalry and conflict of rights should largely disappear, to the accompaniment of increased benefits for all.

The Metropolitan Water District of southern California, then, has vast potentiality for good, not only as it may bring in the one element which is still needed to make possible a full development of this region of the state, but also as association in the district will inevitably bring communities into an improved understanding of, and fuller coöperation with, each other in this and other great purposes, while preserving their own identities. The foundation alone of the district is a mark of great progress in the field of intercommunity relations, and is the fruit of much labor on the part of those men who fostered it. It represents in being what was sought in the abstract, as expressed in Bulletin 19, Department of Public Works, previously cited:

Control of water to secure maximum supply at costs determined by the economic situation is an engineering problem, and that problem is solvable.

Ahead of the engineering accomplishment is the engineering of men. The decision of the community at large must be made. For accomplishment, its public bodies, its semi-public water organizations, and its individuals must unite in teamwork to pool, rearrange, and compromise existing interests, to legislate and to create a competent organization to carry out the engineering solution.

# Colorado River Conferences and Their Implications

By RALPH L. GRISWELL

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**B**UILDING a dam in the Colorado River for the purpose of protecting the lands of southwestern Arizona and southeastern California from the annual floods caused by the melting snows in the mountains of Wyoming, Colorado, New Mexico, and Utah, and for the conservation of the millions of acre feet of flood waters which now run to waste annually, affects so many divergent interests that from the beginning of the agitation for the project it has seemed almost impossible to correlate the conflicting claims.

The Colorado River has been under observation by army engineers and officials of the Department of the Interior since 1857. Therefore, there were on hand considerable data when an act of Congress "to provide for an examination and report on the condition and possible irrigation development of the Imperial Valley in California" was approved May 18, 1920. This act, known as the Kinkaid Act, directed the Secretary of the Interior to examine the Imperial Valley with a view to determine the area and character of unirrigated lands in the valley which might be irrigated at reasonable cost, and to report to Congress the result of his examination and his recommendations as to the feasibility and advisability of undertaking a dam on the river and the participation therein by the United States. The Secretary of the Interior was also required to report in detail the character and estimated cost of a plan, and "if the said plan shall include storage, the location, character, and cost of said storage."

## FALL-DAVIS REPORT

The report required by the Kinkaid Act was submitted to Congress February 28, 1922, and is known as Senate Document 142, Sixty-seventh Congress, Second Session, popularly known as the Fall-Davis report. This report, consisting of nearly three hundred pages of maps, charts, photographs, and minute details, recommended that the United States Government construct a canal from Laguna Dam to Imperial Valley, the Government to be reimbursed by the lands benefited; that public lands to be reclaimed be reserved for ex-service men; and that the United States Government construct "a reservoir at or near Boulder Canyon on the lower Colorado River, to be reimbursed by the revenues from leasing the power privileges incident thereto."

A bill, commonly known as the Swing-Johnson Bill, to carry out the recommendations contained in this report, was promptly introduced in Congress. In a report on the bill to the Senate Committee on Irrigation and Reclamation, in 1926, Secretary of the Interior, Hubert Work stated:

The building of a unified power plant by the Federal Government in the place of allocating power privileges, as proposed in the bill, is regarded as more efficient and cheaper.

Prior to the submission of the Fall-Davis report, a conference, presided over by Secretary of the Interior A. B. Fall, was held at San Diego, California, on December 12, 1921. At this con-



ference representatives of various interests and different localities expressed their views on the complicated problem. Representatives of the four states along the headwaters of the river objected to the erection of a dam on the lower Colorado, on the ground that the erection of such a dam would create a priority against future development in those states, unless an agreement was first entered into defining the status of the various states regarding future appropriations of water.

#### COLORADO RIVER COMMISSION

Pursuant to an act of Congress, approved August 19, 1921, President Harding appointed Secretary of Commerce Herbert Hoover as the chairman of a commission made up of one representative from each of the seven states in the Colorado River Basin. The members of this commission were appointed in conformity with acts of the legislatures of the several states, and the commission's function was to attempt to divide the waters of the Colorado River system between the various states.

Meetings of this commission were held during the summer of 1922 in Washington, D. C.; Cheyenne, Wyoming; Denver, Colorado; Salt Lake City, Utah; Los Angeles, California; Phoenix, Arizona, and Santa Fe, New Mexico. At the meeting held in Santa Fe on November 24, 1922, a document, since known as the Colorado River Compact, was formulated and signed by the representatives of all the states. This compact, instead of allocating to each state a certain amount of water, divided the water of the Colorado River system between two groups of states. The irrigable areas in the states of Colorado, New Mexico, Utah, and Wyoming, on the upper portion of the river, are separated by several hundred miles of deep and narrow canyons from the irrigable areas in the states of

Arizona, California, and Nevada, on the lower portion of the river, and the commission divided the water between an "Upper Basin" and a "Lower Basin."

By the terms of the compact, Article III, paragraph A, there was apportioned in perpetuity to the Upper Basin and to the Lower Basin, respectively, the exclusive, beneficial consumptive use of 7,500,000 acre feet of water per annum. Paragraph B permitted the Lower Basin to increase its beneficial consumptive use of such water by 1,000,000 acre feet per annum. The 7,500,000 acre feet of water apportioned annually to the Lower Basin was qualified in paragraph D by the proviso that

the states of the upper division will not cause the flow of the river at Lee's Ferry to be depleted below an aggregate of 75,000,000 acre feet for any period of ten consecutive years.

Large storage, it was agreed, is necessary to protect the states of the Lower Basin from the possible use by the states of the Upper Basin of practically the entire flow of the river during periods of little runoff, the deficiency to be made up during periods of large runoff within a ten-year cycle. Excess flow in years of large runoff will be wasted into the sea if a storage reservoir of large capacity is not provided. The data in the hands of the commission indicated that there were some 17,400,000 acre feet of water to be divided annually. Fifteen million acre feet of this flow were divided equally by paragraph A, and the Lower Basin was permitted to increase its consumptive use by 1,000,000 acre feet per annum under paragraph B. Paragraph C of Article III provided that, if the United States of America should recognize that the united states of Mexico by treaty should receive a right to use water of the Colorado River system, this Mexican water would be supplied from the



unapportioned surplus. If the surplus was not sufficient to supply the Mexican demand, then the Upper Basin and the Lower Basin equally should bear the burden of the deficiency.

#### ARIZONA REFUSES TO RATIFY

This compact was submitted to the legislatures of the various states interested in January, 1923, and was promptly ratified by all the states with the exception of Arizona. After two years spent in fruitless negotiations, it was suggested that a way out might be provided by having the six states which had ratified the compact reratify, with a proviso that the terms of the compact should become effective when ratified by six states. Colorado, Nevada, New Mexico, Utah, and Wyoming ratified the Colorado River Compact on a six-state basis in 1925. At the session of the California legislature in 1925, the seven-state ratification of the Colorado River Compact was repealed and a new ratification made upon a six-state basis, with the proviso that this ratification should not become effective until Congress had passed an act providing for storage of not less than 20,000,000 acre feet upon the lower Colorado River. At the session of the Utah legislature, held in 1927, that state rescinded its approval of the compact on a six-state basis, leaving only five ratifying states.

After several years of controversy the Swing-Johnson Bill, in December, 1928, passed the Senate by a vote of sixty-five to eleven, and passed the House one hundred and sixty-seven to one hundred and twenty-two, and on December 21st was approved by President Coolidge. The first bill passed by the California legislature at its 1929 session was an act ratifying the compact on a seven-state basis, and on March 4th an act ratifying the compact on a six-state basis also was approved by the Governor. On March

6th, the governor of Utah signed an act ratifying the compact on a six-state basis.

#### UPPER STATES ARGUMENT

The reason advanced by the representatives of the states of the Upper Basin for a compact dividing the waters of the Colorado River system was to protect the "rights" of those states. It was argued that development in the Upper Basin would be much slower than in the Lower Basin, and that priorities might be established in the Lower Basin which would interfere with development above, unless an agreement was entered into which would reserve to those slower developing states a fixed amount of water for their use against such time as they were ready to put it to beneficial use. Under the law of prior appropriations, as recognized in all the states of the Colorado River Basin and upheld by the Supreme Court of the United States, the citizens of any state may appropriate water and put it to beneficial use, regardless of state lines, so long as such appropriation does not encroach upon prior appropriations. The theory upon which the compact idea is founded proceeds upon the principle that this well-established law shall be set aside and a new law instituted. This new rule provides that appropriators of water in the Upper Basin states may at any future time appropriate up to 7,500,000 acre feet of water, although such appropriation may take water from a prior appropriator in the Lower Basin. Therefore, the purpose of the Colorado River Compact is not to protect "rights" which now exist, but is to create new "rights." Representatives of California have at no time objected to the theory advanced in this new law, although the old principle worked immensely to the advantage of California's development.

## ARIZONA AND THE COMPACT

The reasons advanced by the Arizona representatives for refusing to ratify the Colorado River Compact were the same as those advanced by representatives of the Upper Basin states who wanted a compact, namely, Arizona feared rapid development in California and desired that water be reserved for use in that state. This position was taken despite the fact that in recent years Arizona has developed more rapidly in the use of the waters of the Colorado River system than has California. In addition to the desire for an allocation of water, Arizona advanced a demand for revenue to be derived from the power which would be generated by the Colorado River project.

Various conferences have been held by commissioners representing the three states of the Lower Basin, without any result to the present time. At the first conference, which was held in Phoenix, August 17, 1925, Governor George W. P. Hunt very frankly stated Arizona's position in these words:

What does she (Arizona) want from the Colorado River? If you ask me specifically what she wants, I reply to you frankly, without any apology, that we do not know. . . . We are satisfied to permit the Colorado River to remain a potential asset until we are ready to utilize the same. . . . If we have something you want and can utilize, economic justice dictates that it be paid for. . . . The State of Arizona expects to derive revenue from every unit of electrical energy generated in this state that is utilized in other states.

This conference adjourned without accomplishing anything.

In the *Prescott Courier* of October 15, 1926, Governor Hunt is quoted as saying:

Los Angeles wants the water from the river—says they need it to drink. Well,

they have the ocean right next door to them, let them drink that water.

A Yuma paper of October 16, 1926, quotes the Governor as saying:

I'll be damned if California ever will have any water from the Colorado River as long as I am Governor of Arizona.

The same article also quotes the Governor as saying:

As long as I am Governor, no dam shall be built at Boulder Canyon.

## NEVADA-CALIFORNIA PROPOSAL

At a conference held by the representatives of the three states, December 1, 1925, Nevada and California delegates submitted a proposal that from the main stream of the Colorado River the State of Nevada should have 300,000 acre feet per annum and the waters of the Virgin River; that Arizona should have her present perfected rights, amounting to 232,000 acre feet per annum, and the waters of the Gila, Bill Williams, and the Little Colorado Rivers; that California was to receive 1,095,000 acre feet per annum for domestic uses and present perfected rights to 2,146,600 acre feet. The remainder of the 7,500,000 acre feet apportioned to the Lower Basin by the Colorado River Compact was to be equally divided between Arizona and California. Under this division, Nevada would receive 300,000 acre feet, Arizona 2,095,200 acre feet, and California 5,104,800 acre feet, from the main stream of the Colorado River, in addition to which Arizona, from the waters of the Gila, Bill Williams, and Little Colorado Rivers, according to their own statements, would receive 3,370,000 acre feet per annum, making a total of 5,465,200 acre feet, against California's total of only 5,104,800 acre feet. Arizona rejected this proposal and submitted a counter proposal

giving to Nevada 300,000 acre feet per annum and dividing the remainder between Arizona and California. This suggestion would give California 3,600,000 acre feet, and Arizona 3,600,000 acre feet from the main stream, besides 3,370,000 acre feet from the Gila, Bill Williams, and Little Colorado, thus giving Arizona 6,970,000 acre feet from the Colorado River system and California only 3,600,000.

From the conflicting data presented by the partisans of California and Arizona, an approximation of the antagonistic claims appears to indicate that California has 515,000 acres of land now being supplied with water from the Colorado River by gravity, that an additional 365,000 acres may be reclaimed by gravity, and that 300,000 acres can be put under cultivation by pumping water to one hundred and fifty feet, a total of 1,180,000 acres.

In Arizona there appear to be 76,000 acres of land now being supplied with water from the Colorado River by gravity, an additional 120,000 acres which may be reclaimed by gravity, and 634,000 acres which can be put under cultivation by pumping water to two hundred feet, a total of 830,000 acres.

If California uses 2,200,000 acre feet of water on lands now being supplied, 1,550,000 acre feet on new gravity lands, and 1,200,000 acre feet on lands to be supplied by pumping to a height not exceeding one hundred and fifty feet, it will require a total of 4,950,000 acre feet, or 550,000 acre feet more than the 4,400,000 acre feet awarded her under the Boulder Canyon Project Act. If Arizona uses 310,000 acre feet on lands now being supplied, 500,000 acre feet on new gravity lands, and 2,540,000 acre feet on lands to be supplied by pumping to a maximum height of two hundred feet, it will require a total of 3,350,000 acre feet,

or 550,000 acre feet more than the 2,800,000 acre feet awarded her under the Boulder Canyon Project Act.

These deficiencies, as well as any water awarded to Mexico by treaty, will have to be provided out of the surplus water unapportioned by the Colorado River Compact. The foregoing compilation deals with water from the main stream only, and no account has been taken of the additional 1,000,000 acre feet apportioned to the Lower Basin by paragraph B, Article III, of the Colorado River Compact, nor of the 1,095,000 acre feet of water filed on in behalf of the Metropolitan Water District of southern California for domestic use.

Along with the water demands came Arizona's request for revenue from the power to be developed at Boulder Dam, equal in amount to taxes which might be levied if the project was constructed by a private corporation. This request was recognized by California as not being unreasonable, and to meet it the Nevada-California proposal recommended that one dollar per annum per installed horsepower be paid to the states of Arizona and Nevada from the project in lieu of taxes. This proposal was considered fair because of the fact that this is the amount of tax imposed upon hydro-electric plants in some states.

Arizona rejected the California-Nevada suggestion of a tax of one dollar per annum per horsepower, and, although no formal proposition was submitted, suggested that the figure should be six dollars per annum per horsepower. This conference adjourned without accomplishing anything.

#### POWER REVENUE CONTENTIONS

At later conferences the question turned upon the amount of royalty which Arizona demanded from the power project. At one time it was

suggested this royalty should be one mill per kilowatt hour. On an estimated production of 3,600,000,000 kilowatt hours per annum, such a tax would amount to \$3,600,000 annually. At another time the suggestion of four-tenths of a mill per kilowatt hour was made. Upon the same basis of production this tax would amount to \$1,440,000 annually, to be divided between the states of Arizona and Nevada. This tax would appear generous, in the light of Arizona's present utility tax policy and collection.

Figures compiled from the proceedings of the Arizona State Board of Equalization indicate that in the year 1928 the assessed valuation of gas and electric public utilities in Arizona was \$11,600,055, the tax rate on which was seven and seven-tenths mills. This rate apparently yielded less than \$85,000. During the year 1928 it appears, from Department of the Interior data, that 335,640,000 kilowatt hours of electrical energy were generated in Arizona. Had this energy been taxed at four-tenths of a mill per kilowatt hour, the return would have amounted to \$134,256. A rate as low as two and one-half tenths of a mill would yield about \$84,000, approximately the amount collected during the year. This figure of two and one-half tenths of a mill applied to the 3,600,000,000 kilowatt hours to be generated at Boulder Dam would yield \$900,000 per annum.

The provision of the Boulder Canyon Project Act, that 37.5 per cent of the surplus earnings of the plant (the amount remaining after the cost of operation, maintenance, and amortization have been taken care of) shall be equally divided between the states of Arizona and Nevada in lieu of taxes, is not satisfactory to Arizona. Her representatives demand a more definite figure. While the amount which will be received by those states is indefinite

and perhaps small during the early years of the project, depending upon the rate at which the energy will be sold as well as other contingencies, undoubtedly the saving in interest alone during and after amortization will in time make the sum very large. If Arizona demands that Arizona and Nevada shall receive a minimum sum from this source in lieu of taxes, it would seem to be only reasonable that a maximum should also be set, approximately the highest present tax rate in either of the three states affected.

#### DENVER CONFERENCE

At a conference held in Denver in August, 1927, called by the governors of the Upper Basin states in an attempt to compromise the differences between Arizona and California, California asked for 4,600,000 acre feet of the water allocated to the Lower Basin by the Colorado River Compact and offered to quitclaim to Arizona 2,600,000 acre feet, and the waters of her tributary streams. Arizona rejected this proposal, but tentatively agreed to a proposition advanced by the governors of the Upper Basin states that California's quota should be only 4,200,000 acre feet, the remainder going to Arizona, less 300,000 acre feet to Nevada. The Nevada apportionment was agreed to in all proposals.

When the Boulder Canyon Project Act was before the United States Senate in December, 1928, Senator Bratton of New Mexico offered an amendment, as a compromise between these conflicting claims, which gave to Nevada 300,000 acre feet, to California 4,400,000 acre feet, and to Arizona 2,800,000 acre feet per annum. The amendment was adopted. Another amendment, which was adopted, indicated what the Senate considered would be a reasonable compact between the three states of the Lower



Basin, by providing that Arizona, California, and Nevada were authorized to enter into an agreement which would provide that, of the 7,500,000 acre feet annually apportioned to the Lower Basin by paragraph A of Article III of the Colorado River Compact, Nevada should receive 300,000 acre feet, Arizona 2,800,000 acre feet, and California 4,400,000 acre feet, California and Arizona each to receive one-half of the surplus, or unapportioned, waters.

#### POINTS OF DIFFERENCE

The compromises written into the Boulder Canyon Project Act by the United States Senate, and tacitly agreed to by the Arizona Senators, are not acceptable to Arizona, as evidenced by the contentions of her commissioners at the conference held at Santa Fe in February, 1929. Power revenue, and not water, is the crux of the matter in Arizona, as is evidenced by statements from various individuals from time to time during the years of controversy. Since the passage of the act, Professor G. E. P. Smith, of the University of Arizona, in an article in *The Tucson Star*, said:

As to the division of water, California needs much more than the 4,400,000 acre feet allotted to her in the bill.

That Arizona hopes to capitalize California's urgent need for water and exact power tribute is indicated in an article in *The Arizona Republican* of December 22, 1928, which said:

The bill does not give to Arizona that revenue in lieu of taxation to which she is entitled. . . . California is in extreme need of the power to be supplied by the proposed project. Her need for domestic, or potable water, as it is termed in the bill, is even greater than her need for power.

*The Tucson Star* of December 25, 1928, said:

Arizona's chief demand has been that it

should derive a royalty tax from power developed by a dam. If their first demand had been granted, Arizona might have received six dollars per horsepower.

This would have provided a sum approximately equal to the ordinary annual expense of running the Arizona state government.

The points of difference between Arizona and California appear to be the Arizona demand for a fixed and definite amount of power revenue, in addition to that provided in the Boulder Canyon Project Act, and the division of the 1,000,000 acre feet of water set up in paragraph B, Article III, of the Colorado River Compact:

In addition to the apportionment in paragraph A, the Lower Basin is hereby given the right to increase its beneficial consumptive use of such waters by 1,000,000 acre feet per annum.

California contends title to this water may be acquired by appropriation without regard to state lines, and Arizona contends that 700,000 acre feet shall be reserved for use in Arizona. It is probable that this small difference may be adjusted, but the larger question of revenue from the project may continue to wreck future conferences.

#### BENEFITS TO ARIZONA

Whether Arizona approves the Colorado River Compact or whether she does not approve it, under the terms of the Boulder Canyon Project Act she will receive 2,800,000 acre feet and one-half of the unapportioned water from the main stream of the Colorado River and all the waters of her tributary streams, together with 18.75 per cent of the surplus revenue from the Boulder Dam project. She will also have an option for six months to contract for one-third of the electric energy generated at Boulder Dam. This leaves only one point in contro-



versy, the title to the 1,000,000 acre feet of water set up in paragraph B of Article III. The question is whether it shall be treated as water to be taken by the first person who can put it to beneficial use, or whether it shall be treated as surplus water to be equally divided between California and Arizona.

The threat of Arizona to go into court and hold up the development unless her terms are acceded to is hardly to be given serious consideration. The United States Government has the right to build the dam without the consent of any state. During the consideration of the bill in Congress,

the Arizona Senators were the only persons to question the right of the Government to build the dam. The provisions of the act as to ratification have been complied with, and each of the states ratifying on a six-state basis has also ratified on a seven-state basis. If Arizona ratifies, the work can proceed at once; if Arizona does not ratify, the work can start June 21st. While not absolutely necessary, it would clear the air if Arizona would come into accord with the other states. The construction of this great project would then go forward with the hearty approval of all the communities to be benefited thereby.

# Major Engineering Problems: Colorado River Development

By FRANK E. WEYMOUTH

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**T**HE determination of the location of the first large storage dam on the Colorado River is an economic as well as an engineering problem. Everyone acquainted with the situation agrees that there is need of flood protection and storage for irrigation purposes, and there will also be need of additional power in the Southwest by the time a storage dam can be built.

## SUMMARY OF PROBLEMS

The Colorado River is one of our great national resources. It drains an area of two hundred and forty-four thousand square miles, one-thirteenth of the area of the United States south of the Canadian boundary. It comprises within its basin parts of seven states and of the Republic of Mexico. Its development is, therefore, a matter not only of interstate but of international concern. The navigability of the stream, while of little practical value at present, has been recognized by treaty, and the large areas of desert public land which can be irrigated from its surplus waters add features of national interest. Taken singly or together, such are the magnitude and scope of the problems involved that they challenge the best efforts of the engineer and the statesman.

The development of the agricultural possibilities of the basin through irrigation has already made notable progress. Under the ditches of the Imperial Irrigation District alone are over four hundred thousand acres, constituting the largest single irrigation project in the United States. Government

projects and private developments throughout the basin have been extended until there are now over two million acres irrigated from the waters of the main stream in the United States, and over two hundred thousand acres in Mexico. In the Lower Basin development has already reached a point where at times the entire low water flow of the river is not sufficient for irrigation needs.

## URGENCY OF FLOOD CONTROL

In its present state of partial development, however, the river is a menace no less than it is a benefit. Each spring the snows accumulated on the mountain slopes of the Upper Basin melt with the advancing season, until by the end of May the lower river has become a raging torrent. This flood usually reaches its peak late in May or in June, after which it ordinarily subsides, but the floods have been known to continue into August. Flashy floods from torrential rains on the middle and lower tributaries may occur almost any month of the year, and those from the Gila River have been known to reach a peak as high as any recorded from the main stream itself.

Annually the river carries past Yuma an average of two hundred million tons of silt. When the river is not in flood, this silt burden is largely carried to the Gulf; but in times of flood, when the river spreads beyond its banks, it drops its load of silt not only at its mouth, but wherever along its course the velocity of the water is checked. Especially does this deposition of

material occur along, and near, the banks of its low water channel. These banks are thus built up by successive floods until they hold the waters to such an elevation that the main current of the stream eventually breaks through and finds a new channel in lower ground.

In the delta region below Yuma, less restricted by natural lateral barriers, this tendency finds widest scope. Here the river has built a conical fan-shaped ridge, cutting off what formerly was the upper end of the Gulf of California. Along the crest of this flat delta ridge runs the river: one slope toward the south terminates at sea level at the present head of the Gulf of California; the other, extending northward on a much steeper slope, reaches a depression two hundred and fifty feet below sea level at the rim of the Salton Sea. The portion of the ancient gulf thus cut off constitutes the Salton Basin, the irrigated area of which, lying largely below sea level along the northward delta slope, is known as Imperial Valley.

In ages past, the river has swung back and forth across this delta, discharging now into the gulf and now into the Salton Basin. Indian tradition would indicate that this has occurred even since the basin has been inhabited. Preceding the coming of the white man, however, the river had flowed uninterruptedly into the gulf for such a period that the Salton Sea had become reduced through evaporation to a mere remnant, and the fertile acres of its former bed invited the construction of a canal from the river for their irrigation.

In 1905 the river took possession of a temporary intake that had been cut for this canal in the river's bank, and during eighteen months discharged its full flow into the valley. Turned toward the gulf again after months of

effort, the river found its old channel inadequate and soon abandoned it, seeking an outlet westward toward Volcano Lake and the Salton Sea. The overflow waters, being prevented from reaching Imperial Valley by an extensive levee system, rapidly filled the Volcano Lake depression with silt. Each annually recurring flood, raising the overflowed portion of the delta higher by the amount of its deposited silt, required the levee each season to be raised and strengthened to keep pace with the ever rising flood levels. Finally, at a cost of over four hundred thousand dollars, the Imperial Irrigation District constructed the Pescadero cutoff from the river toward a lower lying region to the south, and thus gained a temporary respite from its assaults. Within a few years at the most, the silt deposits will raise the elevation of this latter area to a point where the main current of the floods will again be thrown to the west and north, at which time the assaults of the river on the Volcano Lake levee will be renewed with assurance that sooner or later another break into the valley will occur.

The menace in case of such a break is not limited as at Yuma, and above, to the loss of crops and improvements and the cutting away of a few or many acres of valuable land, serious as that menace is. Besides all this, the greater danger here is that the levee, once breached, and the river at flood turned into Salton Sea, the steep gradient of its course will induce the cutting through the soft alluvial soil of a gorge in which the flow may not be checked until a large part of the valley has become submerged beneath the waters of an inland sea.

#### IRRIGATION NEEDS

Next to the protection of the areas now irrigated from the flood menace,

the matter of securing an adequate water supply for lands now irrigated and for those susceptible of irrigation, but not now irrigated, is of importance. Practically everywhere within the basin irrigation is necessary for successful farming operations. Less than one-fourth of the area that is feasible of irrigation in the Lower Basin now receives water, and this area at times absorbs the entire low water flow. If, however, the floods are conserved and the entire runoff of the stream is utilized, the regulated flow will be sufficient to supply all the lands in the Lower Basin that can feasibly be irrigated from the river.

There will be urgent need in a very few years for additional water supply for domestic purposes in southern California. It has been definitely concluded that the only feasible source remaining undeveloped is the Colorado River, but its dry season runoff is already overappropriated for irrigation use. The proposed diversion to the cities on the Pacific slope is, therefore, impossible until the flood runoff of the river is effectively controlled by a reservoir of large storage capacity.

#### POWER REQUIREMENT

An adequate source of power at a low cost is much needed in the Southwest at the present time to supply its rapidly growing power market and to aid in its industrial development. Coal deposits here are lacking or inaccessible. Oil fields, while producing abundantly now, are subject to such rapid exhaustion and their output is of so much greater value for other purposes that they cannot constitute a permanent source of industrial power on a large scale. The progress of hydro-electric power development in California has been remarkable, and there are still a number of undeveloped power sites in that region. The more

feasible sites, however, have been developed and some projects now under way there or planned for early construction are near the limit of feasibility, under present conditions. The development of some additional source of power in this region at an early date is greatly needed to supply its constantly increasing demands. Mines, railroads, and local industries in Arizona, Nevada, and southern Utah are suffering under a similar handicap.

Flood control is the urgent need of the Lower Basin, and irrigation is generally considered in the arid region as a use of water superior to its use for power where the two conflict. In the present instance, however, investigations have demonstrated that an opportunity exists above the Boulder or Black Canyon in northwestern Arizona and southeastern Nevada for the construction of a single reservoir which will combine flood control and irrigation storage and at the same time, without interference with free and complete extension of irrigation in both the Upper and the Lower Basins, permit the development of a large amount of power. This power can be made not only to repay the entire construction cost of dam and power equipment, with interest, but will remain thereafter a permanent asset.

Power development on the Colorado at the present time is in its infancy. Distance from centers of population, the presence of enormous coal deposits in the Upper Basin, and the absence of large industrial demand have combined to render such development to date of minor importance. Eventually dams at Flaming Gorge, Dewey, Kremmling, and other sites on the upper river, together with the construction of a great series of dams in the canyon region, dropping the water step by step, may provide between three and six million horsepower with-

out invading the boundaries of the Grand Canyon National Park.

Market for development to any such extent is, of course, lacking now, and economic power development cannot far precede the development of an assured market. In southern California, however, the growth of the power load is rapidly exhausting the available hydro-electric resources of the state.

#### WATER SUPPLY AND IRRIGATION

The irrigable lands in the Colorado Basin fall naturally into two groups: those above the canyon region on the upper reaches of the river and its tributaries, in what is known as the Upper Basin; and those below the canyon region, in what is similarly known as the Lower Basin. For convenience, Lee's Ferry, just below the Arizona-Utah state line has been adopted as marking the point of division between the two basins.

The Upper Basin is the source of by far the larger portion of the water supply of the river. While a large part of the waters arising in this region can be utilized for irrigation by diversion from natural flow and by storage on the upper tributaries, physical conditions are such that a considerable portion of this water, augmented by the unutilized return flow from Upper Basin irrigated lands, will always remain in the river as it flows past Lee's Ferry and be available for use on lands below. Above Lee's Ferry the total area of lands in the Upper Basin now irrigated, and of future development as it may be predicted from present considerations, is 4,187,000 acres.

Below Lee's Ferry and above Laguna Dam are a number of valleys aggregating some four hundred and sixty-nine thousand acres of irrigable lands which can be irrigated by diversion from the river, but of which only

forty thousand acres are now being irrigated. Such levees as have been built along these reaches of the river have been repeatedly breached, and flood control as well as irrigation storage is essential if any considerable area of these lands is ever to be reclaimed.

Laguna Dam is the point of diversion of the Yuma project of the Bureau of Reclamation. Below Yuma lies the Colorado River delta, the northward slope of which lying largely in California and extending to the Salton Sea, two hundred and fifty feet below sea level, is known as the Imperial Valley. Below Laguna Dam, around seven hundred thousand acres are now under irrigation, and estimated future developments for which water is estimated to be available with complete utilization of the river brings the total for the Lower Basin below Laguna Dam to 1,699,000 acres for which water will be available, when the river is controlled.

In order completely to realize the irrigation possibilities of the Lower Basin, with full development as above, provision of storage capacity to the extent of at least 26,000,000 acre feet will be required.

#### LEVEES VERSUS RESERVOIRS FOR FLOOD CONTROL

Two principal methods of flood control may be considered for the Lower Basin: levees and reservoirs. Levees at present protect the Yuma project lands and the lands of the Imperial Valley. They are a source of continued and, as the delta rises, of constantly increasing expense. No construction short of a complete line of levees adequately maintained on both sides of the river from Laguna Dam to the Gulf of California can be considered as a complete solution of the problem, and such construction would impose an



insupportable burden of expense. Reduction of the maximum flow at Yuma to 40,000 or less second feet will keep the river below that point within its natural banks at most places, will make the rock-protected levees now constructed in that region safe against attack, and will permanently free the Imperial Valley from the present annually repeated menace of possible submergence by the waters of the Colorado River. While levees will still have to be maintained, at least until the Gila floods are similarly controlled, their maintenance under these conditions will be a minor matter as compared with the present heavy annual maintenance expense. Gila floods, while sometimes of high maximum discharge, are always flashy in character, and even if a flood from that source should break the levees it would subside so that repairs could be effected before the permanent course of the river should be established through such break.

Provision of 10,000,000 or more acre feet storage capacity in a reservoir on the lower river operated solely for flood control will effect a reduction of all floods to the above maximum of 40,000 second feet, with the exception of such floods so far in excess of any that have occurred within the period that records have been kept on the river that their recurrence may not be anticipated as often as once in one hundred years; and these exceptional floods can be controlled within 70,000 second feet. At the top of a larger reservoir otherwise devoted to irrigation or power storage, that flood control storage capacity may be reduced somewhat, or, say, to 8,000,000 acre feet, or at most 10,000,000 acre feet. This last named alternative is by far the lowest in cost of any effective method of flood control for the lower valley.

#### LOCATION OF FLOOD CONTROL RESERVOIRS

Careful and thorough investigations have proved conclusively that Imperial Valley cannot be protected from floods by storage on the upper river above the Grand Canyon. The flood control reservoirs must be below the Grand Canyon.

Any development on the Colorado River should, if possible, be made in such a manner as not to interfere with the development of any other section of the river. Besides, in planning the development of the Colorado River consideration should be given, first, to river regulation and flood control due to the urgent need of flood control for the Imperial, Blythe, and Yuma Valleys; second, to storage for irrigation; and third, to power development. The latter should be subordinate to the other requirements. The power developments should be used as far as possible to defray the cost of storage.

Any dam constructed in the river should fit into a general scheme of maximum practical development for the purposes of flood control, irrigation, and power. To this end sufficient storage should be provided adequately to control floods, at first largely for the prevention of avoidable damage, and later to obtain the maximum benefits from the use of such waters for irrigation and the production of power. Other considerations permitting, deep reservoirs should be chosen in preference to shallow ones, as the exposed areas and consequent evaporation losses are less. Head should not needlessly be sacrificed. It is necessary to take into consideration present developments, not only in the Colorado River Basin but in adjacent territory, and the likelihood of early additional development, because storage should be built at such a point as to permit power that

can be developed at the storage dam to be within practical transmission distance of large power markets. This phase of the program should not be lost sight of in considering the best way to develop the river as a whole.

If the flow of the river is equated, an average flow of something like 20,000 second feet will result (with the present upstream depletion). From Yuma to the Gulf the river does not overflow its natural banks on the rising river until it reaches a stage of 30,000 to 50,000 second feet, varying somewhat due to local conditions. While the river meanders and cuts unprotected banks at practically all stages, levees protected with rock are not endangered until a flow of 45,000 or 50,000 second feet is reached. It, therefore, appears that with the floods of the main Colorado controlled by reservoirs to a maximum of 40,000 second feet, most of the difficulties with floods below Yuma would be at an end.

A careful study of the flow of the river has shown that at least 8,000,000 acre feet of storage (10,000,000 acre feet, at least, if in a small reservoir for flood control only) are required for flood control on the lower Colorado River, to regulate floods to 40,000 second feet or less, with the present stage of development in the Upper Basin. It is anticipated that ultimately this may be safely reduced to 5,000,000 or less acre feet, as diversions increase in the Upper Basin, and as additional reservoirs are constructed upstream, with large regulatory, flood control, and freeboard storage capacity. About 15,000,000 acre feet of storage are required for complete irrigation development in the Lower Basin, though much less would suffice for the present, gradually increasing to the larger amount as new projects are constructed in the Lower Basin, and as additional upstream depletion occurs.

As the river discharges an average of approximately 100,000 acre feet of silt annually, an allowance of about 5,000,000 acre feet of capacity should be made for silt storage, which will also serve as dead storage to increase the mean power head. Combining these variable factors indicates that a total storage capacity of about 26,000,000 acre feet should be provided.

A question naturally arises as to which of several possible dam sites below the Grand Canyon should be used first. A good reservoir site is a somewhat rare topographic feature. Satisfactory foundation conditions must exist at the dam site from the standpoint of strength, tightness, and depth. The reservoir should be large and must be tight, so that the losses will be small. Other considerations are its accessibility, available construction material for the dam, and the amount of evaporation from the reservoir surface. It is, therefore, not surprising that of the many proposed reservoir sites that have been investigated only a few are worthy of serious consideration.

As to adequate storage capacity for irrigation and flood control, this factor is by far the most important, as the use of water for irrigation must take precedence over that of power. The object of development should be, first, the protection of the present irrigated land from the ever present dangers of inundation and water shortage, and thereafter the provision of adequate storage capacity to permit the utmost development of the water resources of the entire basin. In working out the best solution of the problem as a whole to provide for (1) flood protection, (2) storage for irrigation, and (3) a site so located as to be within transmission distance of a power market, a reservoir at Boulder Canyon, with a dam constructed at the lower site in Black

Canyon, has the following advantages:

- (a) It is readily accessible.
- (b) Foundation conditions at the dam site are excellent.
- (c) Construction materials of demonstrated suitability are available near the dam site in sufficient quantity for the construction of any dam considered.
- (d) It will not interfere with any proposed irrigation project.
- (e) Within the limits considered, estimates indicate that storage can be created in Boulder Canyon Reservoir at less cost than at any other known site on the lower river.
- (f) It is a better power site than the Diamond Creek site, having greater reservoir capacity for the same rise in water surface, which increases the potential power, and being closer to the principal power market, which makes power developed of greater unit value.
- (g) It is well adapted to development of power in connection with a flood control dam because of the great head available.
- (h) In case of the larger reservoirs, the area of water surface exposed to loss through evaporation is less than at other sites.
- (i) It is so located as to control discharge from all important tributaries, with the exception of the Williams and Gila Rivers.
- (j) It is nearest the lands to be benefited of any points on the river where it is feasible to construct a reservoir adequately providing for ultimate requirements of flood control, silt, and irrigation storage combined.
- (k) It is the most advantageous site at which the entire cost of construction can be repaid through the marketing of power developed incidentally at the dam site.

Ultimately, all the head on the Colorado River should be developed

for power, and the first dam built on the river should be so located as to fit into a general plan of complete river development. Long and serious consideration has been given to this subject. Various schemes of river development have been worked out in order to determine whether the construction of the high dam at Black Canyon will interfere with the best ultimate development of the river, and it has been found that it will so fit in and will not interfere with the best ultimate development.

#### DESIGN OF THE DAM

A dam at Black Canyon to provide the storage required for the proper control of the river will stand five hundred and sixty or more feet above the present low water level of the river. Allowing for the excavation of gravel and unsound rock, it is expected that the total height will be over seven hundred feet. This is far in excess of any dam so far constructed. A great deal of theoretical study and experimental work will be required before final designs are completed.

Designs made to date are of a preliminary nature. It is too early to make a definite statement as to what type of structure will best meet the requirements of the site, but a gravity dam seems to be indicated. With the height contemplated much of the supposed simplicity of the gravity type disappears, and considerable ingenuity is required to keep the stresses within safe limits. In a low gravity dam the chief problem is to provide sufficient weight to prevent sliding on the foundation, and to so distribute the weight as to prevent overturning. As the height is increased, attention must be given to the pressure on the rock, and stresses in the dam itself, to insure that failure by crushing will not occur. In dams of ordinary height the stresses are con-

trolled by the simple expedient of increasing the batters of the faces, thus widening the base and increasing the strength of the structure; but a point is finally reached where further flattening of the faces weakens, rather than strengthens, the structure. This difficulty may be overcome by arbitrarily increasing the batter in the upper part of the section, in order that a combination of great thickness and nearly vertical faces may be possible near the base.

It is evident that as the height of the structure increases, the stresses due to the simple weight of the masonry increase rapidly, and the maintenance of the low pressures usually recommended for low dams becomes difficult and expensive. It is, of course, necessary to keep within the bearing strength of the rock, but it is more economical to increase the strength of the concrete by enriching the mixture than to attempt to keep the stresses within the allowable limits for ordinary lean concrete. A maximum pressure of forty tons per square foot appears, from studies thus far made, to give a reasonable structure.

It is desirable that an attempt be made to estimate the importance of secondary stress effects. The proposed site is relatively deep and narrow. The gravity cantilever section will not be entirely free to deflect. Considerable restraint from horizontal beam and arch action may be expected. The effect of these factors will tend to reduce the principal stresses, especially at the maximum section. The effect on abutment sections needs to be carefully investigated. The possibility of splitting forces and other damaging effects of setting shrinkage require special study.

Always in the design of a gravity dam the density, or unit weight, of the concrete is of importance. In a low

dam it is desirable that the masonry be heavy, in order that stability may be secured with a minimum volume. In an extremely high dam the situation is reversed. When strength rather than mass stability becomes a controlling factor it is desirable that the concrete be as light as strength and water tightness will permit. Considerable exploration has been done in the vicinity of the proposed dam, with the purpose of locating light aggregate and of sufficient strength and soundness for this important structure.

The design of the spillway for the dam depends upon the amount of reservoir capacity dedicated to flood control. If the flood control capacity is relatively small some kind of spillway must be designed to handle large floods. As the spillway level will be five hundred and fifty or more feet above water in the river below, it can readily be seen that the matter of spillway design is an even more difficult problem than the design of the dam itself. It will tax the ability of the most experienced designing engineers to design a safe spillway, at reasonable expense, to handle even 100,000 second feet through a fall of 550 feet.

Within the period of record there have been floods of nearly 200,000 second feet. An engineer of the Santa Fe Railroad Company estimated that a flood which occurred in 1884 may have reached a maximum of 384,000 second feet at Needles. Driftwood on the river bank near the Bright Angel gauging station indicates that floods of at least 250,000 second feet have occurred at that point.

In my judgment, the most efficient and economical way to handle these floods is to provide sufficient flood control storage capacity in the reservoir so that any flood that may ever come, even those that occur only once in one hundred or five hundred years, can be

regulated to a maximum of 40,000 to 60,000 second feet. It would then be possible to discharge such amounts of water through outlet works of types and capacity well within precedent and not have any spillway at all. It is believed that 12,000,000 acre feet of flood storage capacity in the upper portion of Black Canyon Reservoir, including the 2,000,000 acre feet available as freeboard storage capacity, would make it possible to control any flood that may ever occur to 60,000 second feet. Such control will reduce the cost of levees and flood protection measures from Black Canyon to the Gulf and save a large annual expense to Blythe, Yuma, and Imperial Valleys. Besides, it would materially reduce the cost of spillways for any and all dams that are constructed later on below Black Canyon.

The question of whether a specially designed spillway, probably utilizing

the diversion tunnels on the left bank of the river, is essential to the safety of the dam, or whether an extreme flood might overtop the dam without endangering it, as has generally been assumed, is very important, but chiefly, however, as it affects the total cost of the project. The addition of a spillway does not in any way decrease the amount of flood control storage required for proper protection of the valleys below the dam. In fact, the capacity needed for flood control will be somewhat greater with a spillway than otherwise, since the freeboard storage will be less effective, especially if the spillway is constructed with a free crest uncontrolled by a gate structure. If insufficient storage capacity is reserved for flood control purposes, the dam will become a menace rather than a safeguard, with the constant threat of immense spillway discharges.



# The Financial and Topographical Problems of the Colorado River Aqueduct Project

By E. A. BAYLEY

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ONE of the boldest undertakings ever attempted for providing a metropolitan water supply was that recently proposed for securing a portion of the surplus waters of the Colorado River for the inhabitants of the cities of the coastal plain of southern California, and the building of an aqueduct to bring this water to these cities. That the building of such an aqueduct in the reasonably near future is necessary is borne out by two important facts: first, the present water supply of the city of Los Angeles will prove inadequate in another ten or twelve years if this city continues its present rate of growth; second, the plane of the ground water from which many of the other growing cities of southern California obtain their water supply is being permanently lowered by continual overdraft.

In order that a clearer understanding may be had of the financial and topographical problems involved, it will be well first to discuss briefly the magnitude of this project and its major factors.

## MAGNITUDE OF THE PROJECT

The proposed aqueduct will be unique in two respects. It will be of greater carrying capacity than any previously constructed aqueduct, as it will have a rated capacity of fifteen hundred cubic feet per second, or approximately nine hundred and seventy million gallons daily; and it probably will not be, in its entirety, of the usual gravity type. In design, the plans so far considered are quite similar to those of the Catskill Aqueduct for the New York water supply.

Much of the country through which construction work will have to be carried is vast desert waste land scattered with rugged mountain ranges acting as barriers. There is, however, a stretch of territory near the western end of the proposed aqueduct which is highly cultivated. Orange groves and vineyards abound, and a number of small cities and towns are in the direct path of this great water carrier. The complex problem which will have to be solved is the location of an aqueduct in relation to these varied conditions.

The Colorado River in its lower reaches is situated at an elevation not greatly above sea level. Many of the cities of the coastal plain of southern California to be supplied with water from this source are relatively higher in elevation. Therefore, any aqueduct with its point of intake in this portion of the river must be of non-gravity type, or one through which the water will have to be pumped over a part of its length.

In order to pump the water economically in any non-gravity type of aqueduct, it will be necessary to have available a large block of power at a very low unit price. During the Seventieth Congress, Second Session, an act was passed entitled "Boulder Canyon Project Act," which was approved by the President on December 21, 1928. This act provides for the construction of a dam at Black Canyon, or Boulder Canyon, which will create a reservoir having a minimum capacity of twenty million acre feet. It also provides for the construction and operation of power plants, or lease of power privileges. The only available power for

the operation of any non-gravity aqueduct will be that created at Boulder or Black Canyon.

To construct a gravity aqueduct and thus avoid pumping would require the diversion of water far upstream, or almost at the Grand Canyon of the Colorado. Such a route would probably have its point of intake at Bridge Canyon, over one hundred miles above the Black Canyon dam site. It has been suggested that a dam approximately eight hundred feet in height might be built at this point. This would create a reservoir of some six million acre feet in capacity and would raise the water level to such an elevation that it might be possible to construct a gravity aqueduct as suggested. However, even if it were found feasible to build such a high dam, it would entail the construction of a very long and costly aqueduct.

#### THE SILT PROBLEM

The Colorado River at all times carries large quantities of sediment or silt. Laboratory tests extending over a period of many years have determined the average silt content to be about .62 per cent. It is obvious that the elimination of this silt so as to make the water suitable for domestic use is a problem of great magnitude. In the judgment of most engineers, the best method of desilting the Colorado River is by means of enormous reservoirs. The Colorado River Board, made up of eminent engineers and geologists, of which Major General William L. Sibert was chairman, in its report to Congress in December, 1928, stated that by the construction of a dam at Black Canyon to create a reservoir having a storage capacity of twenty-six million acre feet, complete silting of the reservoir would not occur for at least one hundred and ninety years, even without further upstream devel-

opment. With further upstream development, this period would be extended.

Several sites are available for reservoirs for reregulating and redensilting the river below Black Canyon. With favorable foundation conditions, it would be possible to construct a dam at any one of these sites and create a reservoir with a capacity of a million or more acre feet. Some of the dam sites were investigated a few years ago, and one is now being drilled. The Black Canyon Reservoir will completely desilt the river water and make possible its regulation as to ordinary floods. Consequently, there should be a gradual desilting of the stream bed below the dam. While it is impossible definitely to estimate the time necessary for the ultimate stabilization of the stream bed, the Sibert Board concludes that there will be a marked improvement in the first ten years. However, the construction of a reregulating reservoir at any one of these sites should solve the silt problem in the lower reaches of the river for a long time to come.

The topographic problems are many and varied. The intake for the aqueduct may be placed at any one of a number of suitable points for diversion along the river in a stretch of over four hundred miles between the Grand Canyon and the Mexican boundary. This fact has necessitated the making of a careful topographic survey of all possible points of intake and also of several reservoir sites which might be utilized in connection therewith.

The determination of the proper location for its western terminal involves a study of the methods for distributing water from the aqueduct to the many cities in the coastal plain of southern California. This is best done by studying the topographic features of the territory to be traversed.

Between these two termini there exists a complex situation of desert, mountain, and valley topography. The greater portion of this intervening territory was unmapped at the time of beginning the surveys for the Colorado River Aqueduct. The United States Geological Survey, forty or fifty years ago, did some topographic work in southern Nevada and northern Arizona. An examination of the quadrangles covering the area mapped by this branch of Government service, and a comparison with the actual elevations found in the field, showed that these maps were not sufficiently accurate to be of use in the preliminary planning of an aqueduct location. On the other hand, the quadrangles made by the Geological Survey in recent years are accurate, and, where available, were incorporated in the system of maps produced without further survey.

After a preliminary reconnaissance of the territory over which an aqueduct might be located, it became apparent that there would be several alternative routes. Along each possible route an area was mapped of sufficient width to cover any range of gradients and lifts that might be considered. As the topographic survey progressed along these routes, the advantage of completely mapping the remaining territory lying between the Colorado River and the coastal cities was deemed of sufficient value to engineering study to warrant its undertaking. The survey was therefore extended. Based upon this survey a large contour relief map was constructed, which is now on display in Los Angeles. This relief map has proved a great aid in visualizing the problem at hand.

#### METHOD OF MAPPING

A brief description of the method of mapping might be of interest. The topographic survey of the desert area

was made by what is commonly called the "plane table method," which is that used by the Geological Survey in all its mapping for the topographic atlas of the United States. When this method is used, it is necessary to first install a system of horizontal and vertical control which might be classed under three separate headings, namely, triangulation, traverse, and leveling. By means of triangulation or chained traverse the position of a great many points is accurately determined and plotted on plane table sheets. The topographer then places a sheet upon a drawing board of suitable dimensions and levels and orients the board with respect to the meridian. Then, by means of an instrument called an alidade, which is in the nature of a surveyor's transit mounted on a straight-edge or ruler, he proceeds to take his readings and plot them on his map in their correct positions. The elevations of these readings are determined by means of leveling, or vertical angles, such as is used in the ordinary method of surveying. As a result of the topographer's work upon his plane table sheet, there is obtained a map covered with elevations and contour lines. It is upon maps of this character that the locating engineer plans his aqueduct line. The Geological Survey quadrangles showing contours and contour elevations, which may be found on sale in most book stores, are familiar examples of this method of mapping.

The triangulation for the Colorado River project has been based upon the best available data furnished by the United States Geological Survey and the United States Coast and Geodetic Survey. Wherever available, the first order lines of the Coast and Geodetic Survey have been used as bases and as lines upon which to check for closure.

An area of over twenty thousand

square miles has been furnished with horizontal control. This area is approximately contained within the triangle which has Los Angeles for one vertex, Yuma, Arizona, for another, and the mouth of the Virgin River in Nevada for the third. The total number of new points established and geodetic positions determined in the execution of this survey to date is over sixteen hundred. These triangulation stations have been marked by galvanized iron pipe and cap set in concrete.

Traverse lines have not been necessary on the Colorado River project except for a short distance along the river near Blythe, California, triangulation being by far the most economical and satisfactory control in an open, yet rugged country, such as is found in this area.

The necessary vertical control has been extended largely by checked loops or double checked level lines over the area mapped. The datum is mean sea level, as derived from various bench marks of the Geological Survey and the Coast and Geodetic Survey.

As the result of the establishment of this system of horizontal and vertical control, an area consisting of more than eighteen thousand square miles between the Colorado River and the coastal cities was mapped. The greater portion of the country was quite accessible for survey work. However, in some instances it was necessary to build roads in order to gain access to the more remote parts of the desert. Approximately one hundred and thirty miles of these roads were constructed, and even with this aid recourse had to be made at times to pack trains in order to reach the most inaccessible places. There were also intense heat conditions to contend with during the summer months, the temperature at times reaching as high as 128° F.

From five to fifteen plane table parties were actively engaged throughout the entire period of survey. Many of the plane table men or topographers were formerly in the Government service. With these experienced men, the progress of the work was greatly expedited. It might be of interest to know that copies of these maps have been supplied to the United States Geological Survey in Washington and are being incorporated into the topographic atlas of the United States, now under preparation.

The topographic survey is now nearing completion. Most of the maps are finished and a careful investigation is being made of all possible routes for the Colorado River Aqueduct. Estimates are now under way to determine the construction and operating costs of each route.

The results of these studies will be submitted to a board of eminent consulting engineers and geologists for review and recommendation as to the most desirable route to follow. When all of the elements are taken into consideration, the consulting board will undoubtedly recommend the route which places on the population to be served the least financial burden commensurate with an aqueduct having the best location, construction, and operating characteristics.

#### THE METROPOLITAN WATER DISTRICT ACT

In order that the several cities of southern California may participate in the proposed aqueduct project, the Metropolitan Water District Act, providing for the formation of metropolitan districts for the purpose of developing, storing, and distributing water for domestic purposes, was recently passed by the legislature of the State of California. Under this act such a district may be formed of the territory included



within the separate boundaries of any two or more municipalities.

In accordance with this act, the Metropolitan Water District of southern California came into being and was incorporated following the authorization duly voted and passed at an election held in November, 1928. Up to May 1, 1929, eleven cities have entered this Metropolitan Water District, and others have signified their intention to join. It is expected that in the course of time a large majority of the cities of southern California will enter the district. There is also a provision in the act that unincorporated territory, urban in character, may become a part of the district by forming water districts and entering as such.

An interesting provision of the act, which prevents one city from taking more than its share of water against the interest of other cities requiring water, reads as follows:

(Section 5½.) Each city (including by definition water districts in incorporated territory) the area of which shall be a part of any district incorporated herein, shall have a preferential right to purchase from the district for domestic and municipal uses within such city, a portion of the water served by the district, which shall from time to time bear the same ratio to all of the water supply of the district as the assessed value of property, assessable for district purposes in such city, shall bear to the assessed valuation of all property assessable for district purposes in the district.

In the event of any deficiency in the supply, the water will be prorated in accordance with assessed valuations.

Before the final determination is made of the particular route to be followed, the economics of the situation require that a general study be made of several elements, such as: length of construction period in years, and latest date for completion; population to be

served, and probable growth of this population; future demand for water for the Metropolitan Water District, and quantity to be supplied from the Colorado River.

In addition, the following items must be analyzed for each of the several routes under consideration: estimated capital cost of the completed project, and a program of construction expenditure; interest during construction; amortization of investment; cost of power for pumping, in case of a non-gravity aqueduct; annual operation, maintenance, and depreciation charges; and total annual cost, including a credit for revenue from return power where available.

Engineers of the United States Bureau of Reclamation have estimated that a period of from seven to eight years will be necessary to complete the Bolder Canyon project. It therefore seems advisable to take this same period of time for the construction of the Colorado River Aqueduct, so that when water is available by storage on the river the aqueduct can be placed in operation. It is possible to lay out a construction program to complete the aqueduct within this period of time. With construction started in 1932 and finished in 1939, the aqueduct would come into use at the time when population studies show that the available supply of local sources would just about balance the demand for water.

The estimated population of the portions of the counties of Los Angeles, Orange, Riverside, San Bernardino, and San Diego, in southern California, which could be supplied with water under this project was, in 1929, approximately 2,650,000. In 1932 conservative estimates indicate that this number will have increased to 3,000,000; in 1939, to 3,750,000; in 1950, to 5,000,000; and in 1980, to 8,500,000.

In the area which can be included in



the Metropolitan Water District of southern California, careful studies of the water available for domestic use, with that imported from the Owens Valley for the city of Los Angeles, indicate a supply of about seven hundred cubic feet per second, or four hundred and fifty million gallons daily.

At the present time the water used for domestic purposes in this area as a whole is less than the indicated available supply. By 1939, when the aqueduct could be finished, the demand will about equal the supply. Thereafter the deficiency would be made up by water from the Colorado River. By the year 1980, the aqueduct should be operating almost to capacity. Should the assurance of an abundant water supply cause a more rapid growth of population and industry than that estimated, the full capacity of the aqueduct would be required before that date.

#### ESTIMATED COST OF THE PROJECT

The estimated cost of any of the several routes will vary with the hydraulic gradient. The flatter slopes, due to reduced velocity of water and correspondingly increased cross section of the aqueduct, obviously will cost more to build. Where an aqueduct is designed with pumping plants along the line, any reduction in hydraulic gradient will decrease the head pumped against, and consequently the cost of operating the pumps. Therefore, in a non-gravity aqueduct the cost of pumping must be balanced against the interest and other charges on the cost of construction. Due to these variable factors, the estimated capital investment in a non-gravity aqueduct from the Colorado River might vary within wide limits. For the purpose of this paper, an aqueduct costing two hundred million dollars, which is well within the range of estimated costs of the

several routes, and employing the use of pumps for its operation, will be analyzed. An eight-year construction period has been assumed.

It is obvious that the entire expenditure will not be made during the first year of construction. Normally, it might be assumed that the cost could be divided into eight approximately equal installments. However, such items as rights of way and construction equipment will materially increase the expenditure during the first year. On the other hand, certain sections of the aqueduct would not be constructed in their entirety within the eight-year period. Pumping plants and force mains could be installed in units as needed, thereby deferring a portion of the cost of the aqueduct for a considerable period of time.

Based upon the estimated population and the expenditures for an assumed construction period of eight years, the per capita cost in 1939 will reach a maximum of fifty dollars, or sixty dollars, including interest during construction. By the year 1980, with the then population, both these figures will be reduced to about one-half.

The construction cost of two hundred million dollars for the proposed aqueduct will be financed by the issuance of bonds against the district. By the terms of the Metropolitan District Act these bonds may be paid off in forty equal installments, or the initial payment may be deferred for a period of not more than fifteen years from issuance. In that event the whole amount of such indebtedness must be made payable in substantially equal annual parts in not to exceed forty years from the date of issue.

Based on the anticipated growth in population and on the assumption that the bonds will be retired by the maximum deferred payment plan, the annual interest and principal payments

together will not exceed fifty cents per capita in 1932. Thereafter there will be a gradual increase to a maximum of less than three dollars per capita by the year 1954. From that time on, there will be a reduction in the annual cost per capita until the bonds are retired. By 1980 this amount should be less than ten cents.

In operating the proposed aqueduct the main item of cost is that of power for pumping. Up to the present time no definite price has been set for power to be purchased at the switchboard of the Black Canyon Power House. The cost to the Metropolitan Water District has been variously estimated from as low as two mills per kilowatt hour to as high as four mills per kilowatt hour. In this estimate the cost has been taken at three mills per kilowatt hour, the maximum lift at sixteen hundred and fifty feet, and the maximum head available for the development of return power at seven hundred feet. These heads are approximately those that would obtain on such an aqueduct.

Using these figures and making due allowance for the annual cost of operation and maintenance of the aqueduct, pumping plants, transmission lines, and power plants at the westerly end, and giving credit for a possible revenue

of five mills per kilowatt hour, the following conclusions are drawn: by the year 1940 the annual cost per capita for operation only of the entire project should not exceed twenty-five cents. Thereafter there will be a gradual decrease to about one-half that amount by 1980.

Taking all the above into consideration, the estimated total annual cost, including principal and interest payments on the bonds, operation, maintenance, and other charges, is less than fifty cents per capita in 1932. This amount increases to about \$3.25 in 1954, and after that there will be a gradual decrease until by 1980 the cost should not exceed sixty cents per capita for water delivered.

In closing, inasmuch as the figures cited have been based upon a hypothetical case merely to show the working out of the financial plan of the Metropolitan Water District, it has seemed advisable to give the figures in terms of cost per capita rather than in terms of unit of water delivered, because it is not known how much of the expense, at least in the early years of operation, would be borne by the rate payers and how much by the taxpayers. The figures show that the burden on each citizen of the Metropolitan District would at least not be excessive.

# The Status of Boulder Canyon Power Allocations<sup>1</sup>

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THE American public has been made familiar with the Boulder Dam project as much because of what seemed a power control contest as for any other reason. Here was the dramatic interest in the long drawn out controversy—one which seemed to center about the “entrance of the Government into the power business.” But it has not been recognized generally by the public that from the very beginning of the movement for developing the Colorado there has been general agreement among all of the immediate, conflicting interests that income from power was expected to carry the costs of the project. This is the fact, however. It was so stated categorically by Arthur P. Davis, then Director of the Reclamation Service, on December 12, 1921, in San Diego, California. Such assurance was given to the Senate Committee on Irrigation and Reclamation on January 12, 1926, by Dr. Work, Secretary of the Interior, in a statement upon the financial soundness of the project. Figures were submitted to show that the estimated annual surplus arising from the sale of power would possibly pay the entire cost of development in twenty-five years.

This discussion during the last two or three years as to the relative costs of power generation as between steam and water power raised anew the question of the self-sustaining character of the enterprise. In response to questions in the Senate, during the session of 1928, authority was granted to what came to be known as the Sibert Com-

mission to go into the figures once more. Again came the assurance of a power market and the evidence that water power can compete with steam and pay the bills on the Colorado. Further evidence appears in the fact that when the Secretary of the Interior called for bidders to take the power to be generated tentative contracts were presented for practically twice the amount available, although no definite selling price was set. Practically all of these bids came from municipalities and private companies of southern California. It may be significant that demands for power came from the private power interests which for years have been suggesting the infeasibility of the project.

## OTHER DEMANDS ON POWER

In addition, the states of Nevada and Arizona requested not only that a definite allocation of power be set aside for uses within the state boundaries, but also insisted upon a substantial revenue or royalty from the sale of power to other communities or corporations to be divided equally between the two states. In order to accomplish this, they have insisted that the power be sold at the highest market price as compared with the cost of competing power generated by steam, and, in addition, that a heavy charge be placed upon the water used as a domestic supply for the municipalities of the coastal plain in southern California. In addition to the demands of Arizona and Nevada, the State of Utah insisted that it is also a partner in the Lower

<sup>1</sup> As of November 25, 1929.

Basin settlement and demanded the sale of power to the highest bidder, in order that a substantial surplus over and above the annual expenses of the project could be divided between the states of Nevada and Arizona up to a certain percentage, the remainder to be placed in the fund created by the Boulder Canyon Project Act for the purpose of further development along the river. Utah, also under the plea of being a member of the Lower Basin, at the last minute placed a claim for 50,000 horsepower to be allocated to her, even though her contribution to the Lower Basin as outlined by the Colorado River Compact is limited to the small quantity of water contributed by the Virgin River.

All of these power demands have added to the burden already existing with reference to the allocation of the waters of the river, making the problem of a proper division of the benefits among the interested parties exceedingly difficult of solution.

While the value of the power as a by-product to be used in the payment of the cost of the project has been thoroughly appreciated, the question as to whether it should be developed by the Government as a neutral agency or by private interests came to be one of vital importance. Many seriously doubted the wisdom of permitting the Government to develop the power, because of fear of its effect on private capital and enterprise. Others protested against Government control and operation on the plea that private control would furnish more efficient and economical results. On the other hand, many strongly urged that the project, being not only a national but an international problem, necessitated an agency not only of a neutral character, but one of sufficient power to cope with the state and international complications which naturally might ensue.

They contended that under such a definition only one agency could qualify—the United States Government. They also pointed out the fact that the Government already had established a precedent for efficient operation in numerous reclamation projects where power was developed as a by-product.

#### EFFORTS TO SETTLE DIFFERENCES

In order that the different factions might be satisfied, the so-called Swing-Johnson Bill, as finally passed by Congress, was designed to permit the Government to proceed with the work of development and gave the Secretary of the Interior discretionary powers in placing at his disposal three methods of power development, each of which, however, was to guarantee to the Government a sufficient return to satisfy the financial requirements: first, the Government might lease to states, municipalities, or private agencies the right to develop power at the dam, with structures designed and built under their immediate control; second, the Government might design and construct the power plant and lease to outside parties the power plant as a whole or in units; and third, the Government might design and construct the power plant and sell to prospective consumers the power as developed at the switchboard.

After a great deal of discussion, a clause was finally inserted in the Swing-Johnson Bill providing that from any surplus monies received above the financial requirements of the project a sum of money equal to 37.5 per cent of such surplus should be divided equally between the states, to be construed as payment in lieu of taxation; the remaining 62.5 per cent of such surplus to be paid into a fund to be used for the development of additional projects in the Colorado basin, due to the insistent demands of Utah and other states of

the Upper Basin. Thus, it appears that the power not only must pay the financial requirements of the project, but is also expected to pay a royalty or taxation to the states of Arizona and Nevada, and, in addition, furnish a fund by means of which other states, either in the Lower or Upper Basins, can be benefited by the development of projects within their boundaries.

#### FINAL SUBMISSION OF DEMANDS TO SECRETARY OF THE INTERIOR

The Boulder Canyon Project Act, as approved by Congress and the President of the United States, placed upon the Secretary of the Interior the responsibility for action in order that the construction of the project might proceed. Acting under this responsibility, the Secretary of the Interior immediately issued instructions that the Government engineers determine on a definite program of development. As soon as the engineers' reports were sufficiently in hand, he issued the call for power applications and called for a hearing on these applications to be held on October 14, 1929.

This hearing took place before the Secretary of the Interior, at which time applicants for power from the Boulder Canyon project were to appear and file any applications not previously filed with the Secretary.<sup>2</sup>

<sup>2</sup> The following requests were submitted to the Secretary of the Interior: *Nevada-Colorado River Development Commission*, Carson City, Nev., approximately 180,000 h. p., or 23 per cent of the total amount to be developed; *Metropolitan Water District of Los Angeles*, 280,000 h. p.; *City of Los Angeles*, all, or an equitable allocation; *Southern California Edison Co.*, Los Angeles, all, or an equitable allocation, or 6.3 per cent of the total h. p. available at Boulder Dam, or single purchasing agent for all the power in southern California; *Southern Sierras Power Co.*, Denver, Colo., 45,000 kw., or 7.94 per cent of all power generated; *Los Angeles Gas & Elec. Corp.*, 45,000 kw., or 73,000 h. p., or one-third of the amount allotted to California; *San Diego Consolidated*

For the benefit of applicants, the Secretary of the Interior announced general regulations for the sale of power and water from the Boulder Canyon project. The price of power was fixed at 1.63 mills per kilowatt hour, with provision for readjustment at the end of fifteen years from the date of the contracts, and every ten years thereafter, in accordance with the provisions of the act. The rate for power was based on the assumption that the Federal Government would construct the dam, the power plant foundations and building, as well as the penstocks leading to the machinery in the building, and that the lessees would provide and install all machinery and equipment, and operate and maintain the power plant at their own expense. The Government was to operate and maintain the dam and the reservoir and control the flow of water past the dam.

On October 21, 1929, the Secretary of the Interior announced his decision respecting power allocations and made provision for a hearing on November 14, 1929, for protests, if any, respecting the decision.

The decision allocating power, together with a statement of various understandings and provisions for re-

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*Gas & Elec. Co.*, San Diego, Calif., amount not stated; *City of San Diego*, Calif., 150 cubic second ft. of water, and the power necessary to pump it; *Palo Verde Mesa Development Assn.*, Los Angeles, 18,000 kw.; *City of Santa Ana*, Calif., 10,000 h. p.; *J. T. Dobbin*, Fredonia, Ariz., amount not stated; *Katherine Midway Mining Co.*, Los Angeles, 5,000 h. p.; *City of Glendale*, Calif., 50,000,000 kw. hrs.; *United Verde Copper Co.*, Clarksdale, Ariz., 20,000 to 100,000 kw.; *City of Pasadena*, Calif., 25,000 h. p.; *City of Burbank*, Calif., 20,000,000 kw. hrs.; *Consolidated Felspar Corp.*, Trenton, N. J., 150 to 325 h. p.; *Yuma Utilities Co.*, Denver, Colo., 20,000 kw.; *Public Utilities Consolidated Corp.*, Kingman, Ariz., 100,000 kw.; *Mohave County*, Ariz., 100,000 h. p.; *City of Newport Beach*, Calif., 10,000 h. p.; *Colorado River Com. of Utah*, Salt Lake City, 50,000 h. p.; *Arizona Power Co.*, St. Louis, 30,000 h. p.



allocation of power not utilized, is set down in part:

The power to be developed at the Boulder Dam, subject to certain deductions, is to be contracted for as follows:

To the Metropolitan Water District of southern California, fifty per cent, or so much thereof as may be needed and used for the pumping of Colorado River water.

To the city of Los Angeles, twenty-five per cent; and

To the Southern California Edison and associated companies, twenty-five per cent.

These allotments are to be subject to certain deductions which may arise through the exercise of preference rights, i.e.,

(a) Not exceeding eighteen per cent of the total power developed for the State of Nevada for use in Nevada;

(b) Not exceeding eighteen per cent of the total power for the State of Arizona, for use in Arizona, as above; and should either of the states not exercise its preference rights the other may absorb them up to four per cent;

(c) Not exceeding four per cent for municipalities which have heretofore filed applications.

All such preference rights in whole or in part are to be exercised by the execution of valid contracts with the respective states and municipalities satisfactory to the Secretary, and the exercise of such preference rights is to reduce proportionately the above allotments to the district, the city, and the company. . . .

The contract for the available power is to be made with the city of Los Angeles and the Metropolitan Water District, with various subcontracts assuring the above, and providing for a board of control made up of two members nominated by the city of Los Angeles and the Metropolitan Water District, two by the Southern California Edison and associated companies, and one by the Secretary of the Interior, to act with the city of Los Angeles in the operation of the plant.

The term "municipalities," to which the maximum of four per cent was allocated, refers to various smaller cities of

southern California applying for power, other than the city of Los Angeles.

During the hearing of November 14, 1929, continuing for two days, attorneys for the Southern California Edison Company protested that the company should be given eighty per cent of the power, but expressed an understanding that all agreed that the Metropolitan District should have such power as it may need for pumping.

The "municipalities" protested that four per cent was not enough for them; in fact, not half enough to meet their needs, by the time that the power would be available. The city of Los Angeles pointed out that its allocation would not be more than one-third enough to meet its needs, and that it seemed that after the states of Nevada and Arizona and the Metropolitan District were provided for, the various city applicants should be granted the total balance on the basis of their preference right, as provided in the Boulder Canyon Project Act, as against private power companies, in view of the fact that the total balance would not nearly meet the requirements of the cities alone.

The State of Nevada, through certain representatives, protested that it should have more power allocated to it and that it should not be confined to state boundaries for its use, desiring the power for the future development of industry in Nevada and basing its claim primarily on preference right.

All the "municipalities" and the district urged that the so-called "board of control" provided for in the decision should be representative, in its membership, in proportion to the power allocations. They urged, further, that the board should be advisory only, and that the single operating agency under contract should be responsible to the Secretary of the Interior, for the reason that technical and practical operat-

ing conditions require a single agency in control of the power house and transmission; and also that a divided authority would greatly reduce the market value of the power on account of increased steam standby required at the place of use.

The provision of the Federal water power act referred to in, and made a part of, the Boulder Canyon Project Act respecting preference rights reads:

The commission shall give preference to applications therefor by states and municipalities, provided the plans for the same are deemed by the commission equally well adapted, or shall within a reasonable time to be fixed by the commission be made equally well adapted, to conserve and utilize in the public interest the navigation and water resources of the region; and as between other applicants, the commission may give preference to the applicant the plans of which it finds and determines are best adapted to develop, conserve, and utilize in the public interest the navigation and water resources of the region, if it be satisfied as to the ability of the applicant to carry out such plans.

The private power interests contended that the expression "in the public interest" includes not only the plans for the efficient and effective development and utilization of the resource for supplying the public demand, but also the place and character of use to which it is to be put. If granted to states and municipalities, its use would naturally be confined within the limits of those political subdivisions, while, in the instance of the

Boulder Canyon power, for example, if granted to private companies, it would be available for use outside of municipalities in southern California. They claim that such broader distribution constitutes a higher and more general use, and that the plans of the municipalities are not "equally well adapted."

The State of Nevada and the municipalities contend that such interpretation of the preference right would, for all practical purposes, destroy the provision altogether, and that such interpretation was not the intent of Congress, which is clearly to grant a preference to public agencies as against private agencies engaged in the development and distribution of a natural resource. Clearly, the interpretation of the private interests would destroy the provision for any practical use, for the reason that distributing lines of private companies rarely, if ever, are confined to the boundaries of any municipality or similar political subdivision. Hence, the plans of municipalities could not, under such interpretation, ever be "equally well adapted."

In the hope that a postponement of his decision for another thirty days would give Arizona one more chance to join the sisterhood of states as a partner, the Secretary of the Interior announced that he would withhold his final action until the middle of December.<sup>3</sup>

<sup>3</sup> To date (Jan. 25, 1930), no decision has been reached. A conference now in session in Reno, Nevada, is attempting to iron out the objections of Arizona.

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